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THE
WORLD'S WORK

VOLUME LVII

NOVEMBER and DECEMBER, 1928

A HISTORY OF OUR TIME

GARDEN CITY NEW YORK
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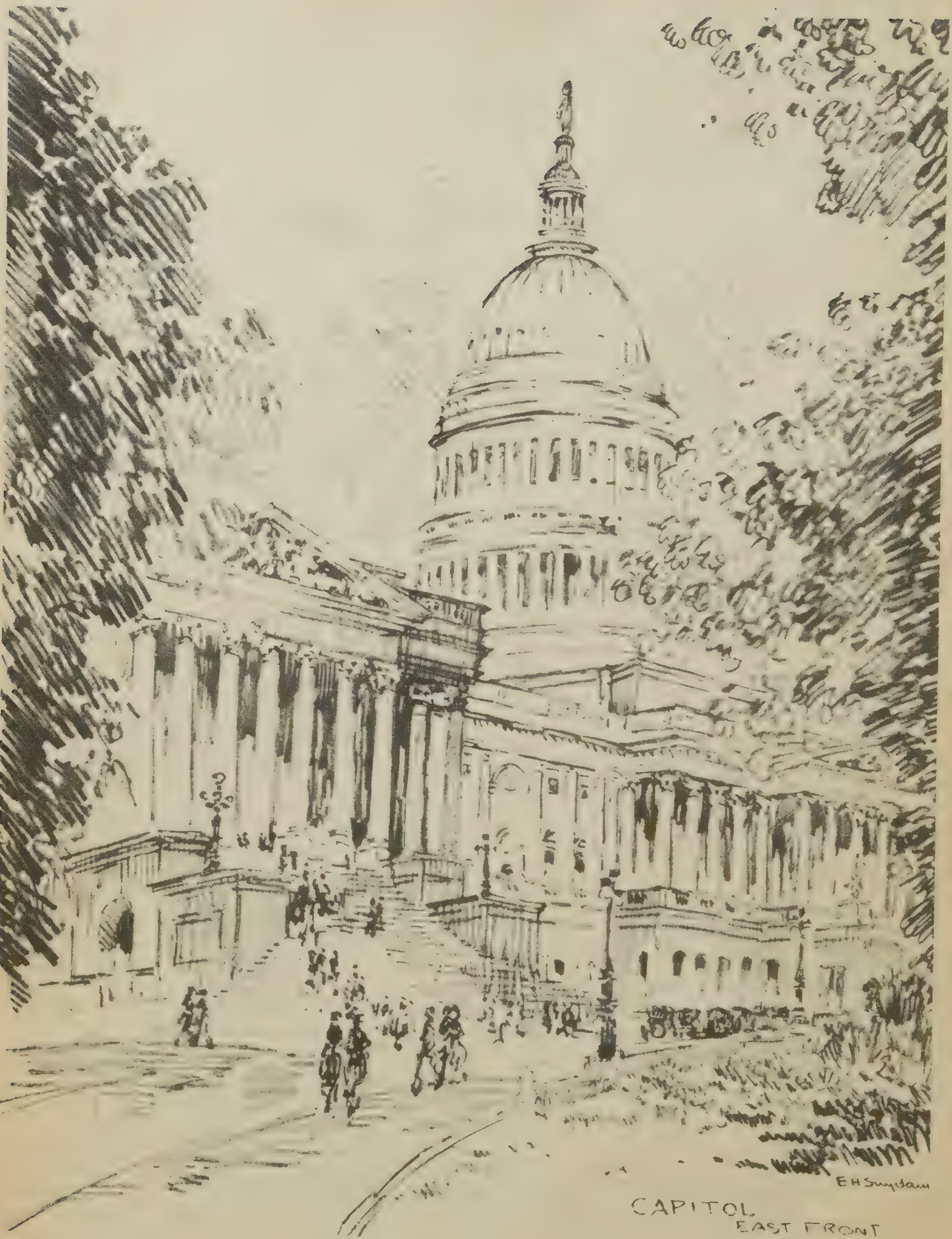

The Capitol
A Drawing by E. H. Suydam

THE
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THE MARCH OF EVENTS

AS THE CAMPAIGN draws to a close it becomes apparent that the worst has not happened. Governor Smith's candidacy has not involved the nation in religious warfare. No churches of any denomination have been, at this writing, either burned down or blown up. No riots have taken place. The Ku Klux Klan, broken and dwindling in power, has confined itself to a whispering campaign that has probably done Governor Smith more good than harm. The candidates and responsible officials of both great parties have conducted themselves with a degree of dignity and restraint of which every American, regardless of his political convictions, may well be proud. For them there need be no aftermath of bitterness. Dr. Hubert Work, chairman of the Republican National Committee and one of Mr. Hoover's personal friends, spoke for the vast majority of decent and fair-minded Republicans and Democrats when he denounced the scurrilous attacks that have been made against both candidates as "an offense against public morals" and urged that they "should not be used to obscure the real issues."

Governor Smith himself, in his speech at Oklahoma City, a stronghold of the Klan, paid his respects to the religious "issue" in terms to which Mr. Hoover could certainly take no general exception —though Mr. Hoover might well have objected to the Governor's intimation that the Republican National Committee was responsible for the manner in which that "issue" had been used. Governor Smith reminded his Oklahoma audience of a fact with which all New Yorkers were already familiar, that he had appointed more Protestants than Catholics to places in the state government. He added that he did not want any votes cast for or against him on account of his religion. With such a position there could not possibly be any quarrel. It left the field clear for the discussion of subjects that have a proper place in a Presidential campaign.

If we set aside the detail that Governor Smith goes to mass instead of to a Quaker meeting the outstanding difference between the two men in the minds of most voters has undoubtedly been that Governor Smith is wet and that Mr. Hoover is dry. Both candidates stated their position upon this issue with admirable candor in their acceptance speeches. It will be recalled that Mr. Hoover came out frankly against either the modification or the repeal of the Eighteenth Amendment. For him any slackening of the enforcement laws "which would permit that which the Constitution forbids is nullification." He regards prohibition as "a great social and economic experiment, noble in motive and far-reaching in purpose."

Governor Smith obviously could not be less explicit than Mr. Hoover in his promise to administer to the best of his ability whatever laws might be found upon the Federal statute books. Otherwise, he would be false in advance to his oath of office. He is pledged under the Houston platform "to make an honest endeavor to enforce the Eighteenth Amendment and all other provisions of the Federal Constitution and all laws enacted pursuant thereto." But he stands committed, *first*, to a modification of the Volstead Act that would allow the people of each state to fix a standard of alcoholic content, within a maximum to be determined by Congress; and, *second*, to an amendment to the Eighteenth Amendment "which would give to each individual state itself, only after approval by a referendum popular vote of its people, the right wholly within its borders to import, manufacture or cause to be manufactured, and sell alcoholic beverages, the sale to be made only by the state itself and not for consumption in any public place."

Unless a tremendous revolution in public sentiment has taken place neither one of these suggestions is politically practicable. Even before national prohibition became effective 95 per cent. of the territory of the United States, inhabited by nearly 70 per cent. of the population, was already legally dry. There are only four states—New York, Maryland, Nevada, and Montana—that do not have state prohibitory laws that supplement the Volstead Act. That thirty-six states can be induced to undo in 1929, or for that matter 1939, what was done in 1917 and 1918 is absurdly improbable. A relaxation of the Volstead Act is hardly more likely.

The belief can hardly be avoided that the actual divergence between a Hoover Administration and a Smith Administration would be in the spirit of enforcement. Complete enforcement, if the experience of the past nine years means anything, is impossible. Within limits the degree of enforcement will depend upon the nature of the appointments made and the amount of money spent. No rational man can doubt that Mr. Hoover will go farther toward effective enforcement than Governor Smith, no matter how much credit we give to the latter's sincerity.

Other things being equal, intelligent citizens will vote accordingly. The difficulty with this election is, unhappily, that other things are not equal. A dry Texas Democrat trying to reconcile his inbred party loyalty with the candidacy of Governor Smith is a good deal like the chameleon that inadvertently wandered on to a Scotch plaid. A wet Massachusetts Republican is almost as badly off. The best that can be said is that for those to whom prohibition is the supreme issue the time has come to forget party.

Where Will the Farmers Head In?

NEXT TO prohibition the agricultural issue and the farmer vote are of outstanding importance. Let us turn back for a moment to the acceptance speeches. Mr. Hoover was committed by his party platform and by his personal convictions against the McNary-Haugen bill. His remedies for the present ailments of agriculture, as set forth in his address at Stanford University, were: *first*, "an adequate tariff"; *second*, the reorganization of the marketing system; and *third*, the creation of a Federal Farm Board whose chief function would be "to build up with Federal finance farmer-owned and farmer-controlled stabilization corporations which will protect the farmer from the depressions and demoralization of seasonal gluts and periodical surpluses."

Governor Smith, in accepting the Democratic nomination, rejected Mr. Hoover's first remedy, spoke of the need for relieving the agricultural depression, condemned the Republicans for failing to enact a "constructive plan of relief," advocated "coöperative, coördinated marketing and warehousing of surplus farm products," and promised to call a farm conference immediately after election. But he did not commit himself upon the equalization fee—the critical point of the McNary-Haugen bill. It was quite apparent that, whereas

Mr. Hoover had a reasoned opinion, Governor Smith had what could at best be called an open mind. He had not studied the farm problem. He was honest enough not to pretend to know much about it. He was also a good enough politician to be willing to wait to see where, if anywhere, the cat would jump.

Until late in the campaign he was still waiting. His invasion of the West was a bid for farmer votes but it did not clear up all that the farmers wanted to know about his attitude. His speech at Omaha, with which he opened his tour, was from most points of view a success. Few speeches by Governor Smith fail of success. He is probably the most effective Democratic orator since Bryan, and he has a simplicity and earnestness that make Bryan's oratory seem flamboyant and even cheap. He outlined the farmer's familiar grievances, charged the Republican party with responsibility for failing to remedy them, and declared that neither the tariff, nor inland waterways, nor stabilization corporations, nor coöperatives could furnish adequate relief.

He went on to say that, as he read the McNary-Haugen bill, "its fundamental purpose was to establish an effective control of the sale of exportable surplus, with the cost of lifting it out of the domestic market assessed back on the crop benefited." Did this mean that Governor Smith accepted the equalization fee? No one seemed to know. Perhaps he intended to go a little nearer toward endorsing it than Mr. Hoover had, but without actually doing so. Perhaps he was merely an honestly puzzled man who did not for the life of him know whether or not so technical a device as the equalization fee could be made to operate.

This much, however, is reasonably sure. If the McNary-Haugen bill were to be passed at the March session of Congress and submitted to Mr. Hoover as President, Mr. Hoover would be obliged to follow Mr. Coolidge's precedent and veto it. If it were submitted to Mr. Smith as President, Mr. Smith would probably sign it. Whether this means that the farmers have more to hope for from Governor Smith than from Mr. Hoover is another story. It is a significant fact that few if any competent economists accept the principle of the fee as likely to do any good to the farmer or to any one else.

But it is quite possible that a proposal wholly different from the McNary-Haugen bill would emerge from the conference of farmers, economists, and financial experts that Governor Smith has promised to summon if elected. The whole question simmers down to the problem that we shall suggest a little later. Common sense, good will, and an earnest desire to be fair may be counted upon in both candidates. But is the engineering mind or the political mind the one that the situation demands?

The Passing Of the Tariff Issue

A FEW YEARS ago any one attempting to define the difference between the Republican and Democratic parties would unhesitatingly have said that the tariff was a principal bone of contention. This year we have witnessed the curious spectacle of the Republicans trying unsuccessfully to make it an issue. "I am sure," said Mr. Hoover in his acceptance speech, "the American people would rather intrust the perfection of the tariff to the consistent friend of the tariff than to our opponents, who have always reduced our tariffs, who voted against our present protection to the worker and the farmer, and whose whole economic theory over generations has been the destruction of the protective principle."

Governor Smith's reply was that the Democratic party under his leadership would not "advocate any sudden or drastic revolution in our economic system which would cause business upheaval and popular distress." He criticized the Fordney-McCumber tariff not because its rates were too high but because, as he believed, they were unscientific. He advocated the restoration of the Tariff Commission to its original functions as a "non-political, quasi-judicial, fact-finding" body. But he has not breathed a word that would indicate that the general level of rates would come down under a Democratic Administration.

His main ground for attack upon Mr. Hoover's tariff policy, indeed, has been that it would not be the panacea that Mr. Hoover predicted. Mr. Hoover called "an adequate tariff the foundation of farm relief." Governor Smith's reply was that "the tariff is not the solution so far as crops are concerned of which there is an exportable surplus"—a fairly obvious retort that did not do full justice to Mr. Hoover's agricultural program.

But Governor Smith did not advocate free trade in binders or mowers, though he showed that the prices of these implements had risen much more rapidly than the prices paid the farmers for their crops. He did not specify a single rate on any product that he believed should be reduced. It may be too early to say that the Republican party has won its fight against low tariffs just as it won its historic struggles against fiat money, free silver, and the League of Nations. Multitudes of Republican voters dependent upon the protected industries may still remain regular largely because of their economic interest in the existing tariffs. But they are influenced more by a tradition than by a contemporaneous fact.

The reasons for the changing status of the tariff issue are not hard to find. They consist largely in the increasing prosperity of the country. Whatever the theoretical merits of the protective system, and however incidental the part it may have played in enriching the country, the fact that the common man has done well under it will seem to that same common man a good reason for not disturbing it. Popular psychology is more important than many volumes of economic theory.

In addition to the more general trend toward protectionism there have been local trends in some of the Southern states because of the growth of manufacturing. Protection is ceasing to be regional. It no longer lines up a solid South against a solid North, or a solid East against a solid West. The question is not whether it shall be maintained but which party is more competent to administer it. On this score the Republicans have a shade the better of the argument. They have had far more experience than have their opponents in making and operating tariffs.

The Candidates And the "Power Trust"

AS WE indicated in an earlier issue, the acceptance speeches of Mr. Hoover and Governor Smith would not have suggested a sharp clash on the subject of water power. Mr. Hoover, as an engineer and as a prime mover in securing the development of the Colorado River, has shown that he realized the prodigious possibilities of "white coal," and he said at Stanford University that "every drop which runs to the sea without yielding its full economic service is waste." For him water power, inland waterways, and irrigation are phases of a problem and a task that needs to be attacked as a unit.

In this Governor Smith, though lacking the engineer's technical insight, undoubtedly concurs. But Mr. Hoover, in the field of power development as in other fields, believes in leaving as much as possible to private enterprise. He is willing to have the government finance the building of the Boulder Dam only because there is no other way of getting the dam built. In other words, he sees a dam, not a principle.

To Governor Smith, on the other hand, the control of water power is a test of democracy. He believes that its sources "must remain forever under public ownership and control." If they are owned by the Federal Government they must be controlled by it, if they are owned by a state they must be controlled by that state, if they are jointly owned by two or more states they must be controlled by those states through the interstate treaties authorized by the Federal Constitution. This happens, incidentally, to be the principle of the Colorado River Compact that Mr. Hoover negotiated and that he has fought valiantly to have ratified. But Governor Smith suspects Mr. Hoover of casting too friendly an eye upon the "power trust." The merits of this particular charge need not be entered into.

Certainly, neither Governor Smith nor any one else would accuse Mr. Hoover of a design to subvert the liberties of the nation by allowing its electricity to be monopolized. The question seems to be whether we are thinking in terms of water power or of political power. Governor Smith has about the same fear of a power monopoly that the grangers had of a transportation monopoly years ago. He has undoubtedly been aided by the unwise methods that some of the light and power companies have employed in their campaign against public ownership. His argument will have an appeal in all communities in which the companies are inadequately regulated and in which they choke off competition or charge exorbitant rates.

But it is a shrewd guess that the average citizen is less interested in who owns and controls the sources of power than in the ease and cheapness with which he can convert them to his own uses. The policy that builds most dams and most power lines is the one that will win favor in the end. And on the whole it is the engineering insight of Mr. Hoover rather than the political insight of Governor Smith that gives the best promise of this result. To say this is not to give the power corporations a clean bill of health. They have been self-seeking and sometimes unscrupulous. They need regulating. But the way to make a rabbit stew is to begin by catching the rabbit. The way to regulate water power is to develop water power that can be regulated.

Engineer or Politician?

THE CAMPAIGN ends, as it began, one of personalities. It is this, even more than the discussion of the wet and dry issue, the agricultural issue, or the religious "issue," that has given it its unusual interest. Unless the dry Democrats in the South stay away from the polls rather than cast their ballots for Governor Smith we may count upon an unusually large popular vote—perhaps the largest, because of the feminine recruits to the electorate—that has been cast in the history of the country. The elections of 1920 and 1924, in which women voters made their national début, were certainly no test of their voting power.

The choice to be made must be for the independent voter—who really determines who shall be President—an unusually difficult one. In character and in ability there is not often so even a balance between candidates. There is no question that both Mr. Hoover and Governor Smith measure up to the dimensions of the Presidential job. The independent voter presumably is not swayed by party tradition. The candidate will mean more to him than will the platform. He will ask himself, therefore, what temperament and what training our next President should have.

To throw light upon this question we must return for a moment to a point already touched upon. Mr. Hoover is an engineer. Governor Smith is a politician. To say this is not in any sense to disparage Governor Smith, for a politician in the best sense of the word is a man who understands the science of influencing and making effective the will of the people. In that sense Abraham Lincoln was a politician, and in that field, in his own state, Governor Smith has already been extremely successful. He is a better politician, undoubtedly, than Mr. Hoover, if only because he has had a more prolonged and intensive experience. He understands better than Mr. Hoover the technique of dealing with his fellow-men in the mass.

It is conceivable that the next few years will bring emergencies with which precisely such a technique is best fitted to cope. Yet the chances seem to be the other way. Setting aside the prohibition issue, which is likely to remain in a state of flux for a long time, we have, as has been seen, the great problems of agriculture and of water power. We may say that these are predominant, excluding our international relations as presenting at the moment no situation that threatens to become critical. Both agriculture and water power demand the engineering rather than the political genius. There is too much opinion in each field and too few definitely known, well-organized facts. The major task is not to punish the bankers, middlemen, speculators, and power corporation officials, but to develop to the full the resources of the country.

We do not need a Coxey or a Bryan. Governor Smith is, of course, neither a Coxey nor a Bryan but a highly intelligent man, capable of making good use of expert advice and devoted to the public good. But Mr. Hoover is not only able to take expert advice, he is able to give it. He understands the manipulation of things as well as—probably better than—the manipulation of people. He is an engineer superbly fitted for the largest engineering job any nation has ever had to undertake. He is the first man with anything like this equipment who has been a candidate for the Presidency. He is, we believe, better adapted to the mood and to the needs of the American people at this particular stage of our history than is his rival.

If he fails, or if a new set of conditions requiring a different type of executive arises within the next four or eight years, Governor Smith will still be young enough to become a candidate and perhaps still sufficient of a national figure to be elected. It may even be that he will profit by the delay, for he still has much to learn of national and international problems. The choice is a difficult one. Yet we may, as a final word on this subject, congratulate ourselves that our next President will be a man of high ability and absolute integrity. In bringing two such candidates to the front our democracy vindicates itself.

Business Conditions And the Campaign

WITHOUT GOING into an elaborate analysis of business conditions it is easy to see that this is not one of those years in which time, tide, and weather work for the Outs and against the Ins. The coal and textile industries have been hard hit by influences that have been at work for a long time. The former might be called a sick industry. There are too many mines and miners, and the processes of extraction and distribution are not well organized. The New England textile mills have been affected by Southern competition and by other circumstances that have nothing to do with general business fluctuations.

But, as Secretary Mellon stated in one of his recent reports to the President, the country as a whole is prosperous. There are not enough bad spots to cause or to justify serious discontent. Some damage was done to the cotton, corn, and tobacco crops that lay in the path of the September hurricane, but the crop prospects on the whole are good. This will not disarm those farmers who believe that the present systems of marketing are all wrong, but it will at least dispose them against desperate remedies. Probably it will turn some votes toward Mr. Hoover. The steel industry, late in September, was operating at about 85 per cent. of its capacity, with a tendency to increase.

Unemployment statistics are notoriously unreliable, and two equally qualified guessers in this field may be a million or two apart. There may well be, as has been estimated, two million employable workers permanently unemployed in the United States. But this does not mean that the same two million are always out of work, nor that all those who are out of work are suffering. In many trades the slack season is normal, even in periods of high prosperity. Moreover, the American worker has begun to imitate his brethren in white-collar employments in taking an occasional vacation. So we may say that though there may be unemployment there is nothing that could be called an unemployment crisis.

It may not be fair or reasonable that business conditions, which are dependent to some extent upon chance and to some extent upon cycles that even the economists have not yet learned how to measure, should influence votes. Only in the case of tariff changes or drastic financial legislation does the politics of the man in the White House have a direct and important bearing upon bank clearings. But we have to reckon with the natural human tendency to blame the government when things go wrong and to give it credit when things go right. An Administration is more than a series of laws and executive acts; it is also a state of mind.

Prosperity, as it happens, is intimately linked up with states of mind. At all times the United States is rich enough to support its inhabitants in comfort. Depressions come, not when there is an actual destruction of property values but when we begin to fear such destruction. There is no doubt that the "Coolidge prosperity" of the last few years was a very real thing, not because Mr. Coolidge brought superhuman genius to bear upon our public affairs but because he had a steadying and tranquillizing influence upon men's minds. The mere phrase must have been worth millions of dollars.

Perhaps this would not always be true. It is not hard to conceive of situations in which the public confidence could be sustained, not by a hands-off policy at Washington, but by positive remedial action. One of the bases of present-day prosperity—the protection against panics that the Federal Reserve Act has apparently provided—constituted a very significant interference with the flow of the nation's business. At the moment, however, there is little doubt that American business wants to be let alone, and that it values stability more than aggressiveness at Washington. This may or may not be the right attitude to take. The fact is that it is taken, and the probabilities are that it will favor Mr. Hoover rather than Governor Smith.

Ottinger *vs.* Roosevelt

HAD AL SMITH so chosen he might, so far as any one can tell, have gone on being Governor of New York for the term of his natural life. The nomination of other candidates would have been a necessary formality but would not have had practical results. The temporary or permanent elimination of Governor Smith leaves the field open not only to other deserving Democrats but also to Republicans.

Governor Smith's majority has always been centered in the southern part of the state. Any Republican candidate with a good record and an attractive personality can roll up a good majority in the north. A strong Republican might even beat a weak Democrat in a state election. It is possible that he might tilt the scales in the national election toward Hoover. In Attorney-General Albert Ottinger the Republicans may have found such a man.

Ottinger has a reputation as an energetic and able public official. For three years he was Assistant United States Attorney-General under the Harding and Coolidge Administrations. In 1925, he returned to New York to become Attorney-General and immediately began to distinguish himself by his campaign against the bucket-shops and the bucketeers, big and little, that are the corrupt backwash of Wall Street.

In two years he investigated 7,000 complaints of fraud and brought more than 3,000 proceedings against those charged with cheating investors. He drove out hundreds of crooked brokers and saved millions of dollars for their victims. He attacked and broke up the Consolidated Stock Exchange, an institution that had the most respectable antecedents but that had fallen into bad ways. There is no reason to doubt that, if elected Governor, he would apply the same energy and enthusiasm to the executive work of the state. He should also be a good vote-getter. He is, at any rate, his party's best bet in New York, and he may be good enough to give the Democrats a hard fight for their electoral ballots.

He will have to face, in Franklin D. Roosevelt, the Democratic candidate for Governor, a man of great ability, recognized integrity, and national reputation. Mr. Roosevelt is handicapped by poor health, but in these days of radio hookups this will not prevent him from making a direct appeal to the voters. He is a man of liberal principles, and should win many votes on that score. Whatever the outcome of the election, New York will be sure of a competent and conscientious if not of a spectacular chief executive.

Prohibition In Philadelphia

THE FACTS about the bootleg ring that District-Attorney Monaghan has been bringing to light in Philadelphia are a startling indication of what happens to the Eighteenth Amendment in a community that does not want it. Philadelphia, as every one knows, has had the reputation of being one of the most tranquil cities in the country. If its government was often bad it was because the citizens were too contented with their other blessings to bother about it. The community has not been noted for its "wild" life. Its Quaker element, numerically swamped by the newer immigration decades ago, has retained many key positions and a good deal of influence.

But, as the evidence shows, Philadelphia wanted to drink and was willing to countenance a system, no matter how rotten, that made drinking possible. There can be no other conclusion. Distilleries, breweries, liquor trucks, and speakeasies operated so openly that no one with eyes or a nose could have ignored them. Whole districts were redolent of alcohol. The most forlorn and friendless stranger could get a drink if he could pay for it. The police strolled and chatted in front of saloons while a merry business went on inside. General Butler's enforcement squad, which came into such prominence three or four years ago, had degenerated into a collection agency.

There was almost no secrecy about all this. The recent exposures have added little to the already available information as to the amount of drinking that was going on. They have merely revealed the organizations and methods that brought the liquor to the thirsty consumer. Some details no doubt startled the Philadelphians. It was not comforting to know that the police department was perhaps receiving as much as two million dollars a year in graft from the bootleggers. The existence of an inner bootleg government, with its "czar" and its private police, was also a little disquieting.

The ordinary citizen did not mind, perhaps, if the gangsters shot one another, but as the testimony proceeded he could not help realizing that his own hide was not entirely safe. It was obvious that the gunmen who worked for the bootleggers were engaged in that particular kind of crime only because it paid best. They were the sort of men who would have committed burglary or highway robbery with as clear a conscience. It was clear, too, that policemen who accepted bribes from one kind of criminal to permit breaches of the law might also accept bribes from other kinds to permit other breaches. But all this might have been deduced from the known facts prior to the investigation. It should not have surprised any one. And, aside from certain of its more sensational aspects, it really didn't.

Philadelphia has certainly given no sign of being in a state of profound consternation. It has whispered that politics were mostly responsible for what was going on, it has watched the rivalry between its Mayor and the District-Attorney, and in its quiet way it seems to have gone on drinking. Perhaps in the face of this apathy District-Attorney Monaghan will be able to break up the system that has been sending liquor into the city in wholesale quantities. But as long as the apathy continues will he or any other official be able to prevent a new system from growing up?

The same question arises with respect to New York and several other large and small cities. The bootleg system does not grow up of itself. It is the result of a demand on the part of consumers, just as the automobile business is. It is the demand that starts the trouble. Public officials like District-Attorney Monaghan may do something to reduce the demand by pointing out to drinkers the exact nature of the traffic they support. But they are just as likely to reply that it is the law itself, not the breach of the law, that is at fault.

This situation does not prove that the "noble experiment" of prohibition, as Mr. Hoover called it, has failed. It does prove that more thinking must be done on the subject before the problem can be satisfactorily adjusted. We jumped into prohibition before we had evolved either a technique or a national psychology to fit it. Our urban communities have remained outside the law because there was no quick way of adjusting the people's minds to Volsteadism. If they are to be brought back within the law it must be by persuasion, not by coercion. That is the job the prohibitionists face. It is not an easy one.

Afterthoughts On the Kellogg Pact

THERE IS very general rejoicing in Europe over the signing of the Kellogg Pact renouncing war. Almost alone among the larger European nations, the Italian press maintains a tone of skeptical cynicism. It was remarked at the time that Signor Mussolini did not join the galaxy of international stars of the first magnitude who participated in what was supposed to be a great historical event.

The objection of the Italians is quite in line with their oft-repeated international argument: the pact is all very well, but it takes no account of the needs of nations like Italy whose populations are too great for their present territories and who deem themselves to have on that account a prescriptive right to take somebody else's territory. How can this be done, they ask naïvely, if war is ruled out and no other way is provided for transferring territory from those who have it to those who, in their own judgment, have a greater need for it?

It might well be pointed out to the proponents of this argument that it was to put an end to just this kind of destructive activity that the pact was framed. Whatever may be the philosophy of the Italians on the matter of population, the rest of the world feels itself under no obligation to furnish an unlimited amount of land to satisfy an unlimited desire for procreation on the part of the Italians or of any other people. War has been the solution in the past, but the point that the Italians have missed is that the sentiment behind the pact strives not only to do away with war as a method but to do away with the national dismemberment that has been the result of war. This is the very thing the Italians now ask for a method of accomplishing within the framework of the Kellogg Treaty.

This Italian argument will be answered by history as it may be. Meanwhile, the rest of Europe rejoices that the pact is signed. But it should be pointed out that its rejoicing is not at all over the idea that war has been abolished, but is devoted whole-heartedly to the thought that at last America has in some sense tied herself to the European system. Through all the work for peace that has centered about Geneva the main idea has been to establish some overwhelming force that would be sufficient promptly to suppress the war-like activities of an aggressor nation. These efforts have been complicated if not nullified by the fact that any outlawry of a European aggressor, any attempt to cut off its trade with other countries, would find itself in direct conflict with the neutral rights of the United States to trade with the offender. The insistence upon this right by the United States it was feared would have the ultimate effect of making the United States an ally of the nation against which the rest of Europe was in arms.

Now, say the European commentators, all this is changed. If any European nation becomes an aggressor under the League rules, it will also have violated the Kellogg Pact and by so doing will have placed itself in opposition to the United States as well as the remaining members of the League. From now on, runs the argument, the United States can be counted upon to join the League in putting down the aggressor.

It would seem that this argument involves an assumption on what is really the very point at issue. There has been no insistence in the United States that we should help the aggressor nation. But there has been a doubt amounting to a conviction that we might not accept the League's conclusion as to who was the aggressor. There is no more reason, now that the

Kellogg Pact is signed, why we should accept that designation than there was before. It is quite possible that, in the event of a new European outburst, it would appear from the American point of view that diplomatic intrigue within the League had brought about the conflict and designated as the aggressor a nation that in reality was the victim of aggression. In that case it would not be the nation stigmatized as an aggressor by the League that would have violated the Kellogg Pact, but its opponents in the struggle.

While all of this leaves things very much as they were before, there is one point in connection with the French interpretation of the Kellogg Pact—an interpretation accepted by most of the other signatories—that has not been particularly emphasized and yet that has in it the germ of real progress toward peace. This French thesis is that "each nation will always remain free to defend its territory against attack or invasion." To be sure, this is qualified by the further statement that each nation must decide for itself whether circumstances require recourse to war in self-defense. Nevertheless, there is a wide difference between a "war of self-defense," which will cover almost any military operation, and a defense of the national "territory against attack or invasion." In this case self-defense would be limited to repelling an actual invasion of territory. In other words, a nation would not be free to make war *until its frontier had been crossed.* If the supporters of the pact in all countries insist upon this point the influence of the pact as a preserver of peace will be greatly enhanced.

Resurgence Of Secret Diplomacy

THE AMERICAN REPLY to the British note on the Anglo-French naval agreement was sufficiently polite and left the door open to further discussions of disarmament. Nevertheless, it afforded no uncertainty as to our attitude. We cannot and will not accept a so-called disarmament program that restricts the tonnage of the larger ships and submarines suitable to our particular needs and at the same time leaves France and Great Britain free to build the smaller types that would be so eminently useful to them in time of war for offensive as well as for defensive purposes. We are, however, willing to discuss a limitation of total tonnage, leaving each nation free to vary the proportions within each class as it sees fit.

So the matter rests at this writing. It is permissible to hope that the reasonableness of the American reply, joined with the protest raised in Great Britain against the sinister secrecy of the original agreement with France, will save the next conference from going on the rocks.

Just why England and France should have chosen such an awkward moment to indulge in this relapse into what it was hoped was a discarded method of international action is not at all clear. It may have been merely an angry protest of blundering Tory diplomacy against the progress of methods that were not its own. Or it may have been prompted by panic at the appearance of one of those international specters that so often disturb the slumbers of the advocates of that kind of diplomacy. At any rate, the pundits of Downing Street and the Quai d'Orsay selected the very moment when the world was enjoying such satisfaction as there is in the signing of the Kellogg Pact to announce that they had arrived among themselves at a new agreement, the terms of which they refused to disclose.

It was intimated that the accord dealt only with technical aspects of the question of disarmament. If this had been the whole truth there is no conceivable reason why the agreement should not have been made public, and why it should not have added to the general satisfaction over the signing of the Kellogg Pact. Nations are not prone to conceal from each other things that will bring mutual gratification, and yet when two great powers announce with all solemnity that they have reached an agreement on some matter that they refuse to disclose to the rest of the world, their neighbors are quite warranted in assuming that the agreement contains something that will not be altogether to the advantage of those who are kept in the dark.

Russia is, of course, the bogy-man of the British Foreign Office. And it might be contended that the agreement had to do with the mutual defense of French and British interests against the threat of Russian aggression. But it is hard to believe that England and France could not achieve such a purpose without provoking unpleasant suspicion in Germany, Italy, and the United States.

After the signature of the Treaty of Versailles Germany had to choose between two courses of action. She could make every effort to avoid the obligations of the treaty, counting on the interplay of international rivalries to give her the opportunity to recover her lost standing, or she could make a loyal effort to perform the obligations of the treaty in the hope of restoring her international prestige through conciliation and coöperation. The monarchistic and nationalistic elements in Germany advocated the first course, while Stresemann has become the symbol of the second. The German people have declared in no uncertain terms for the Stresemann policy, and it was in a fair way to complete success so far as Germany itself was concerned. The goal of the Stresemann policy was that Germany should be received as a friend and an equal by the other powers. Opponents of this policy have contended that this would not be the case—that the other powers would always turn against Germany. It can hardly be denied that the Anglo-French understanding does a great deal to give substance to this argument of the opposition, especially as it has been suggested that one of the factors that brought about the agreement was England's fear that Germany and France were becoming too friendly.

Italy, like Germany, finds no ground for enthusiasm over the entente. In the first place, here is a major move in Continental politics in the formation of which Italy's claims to consideration as a great power have been utterly flouted. It has been left in ignorance of the negotiations and is faced with an accomplished fact, and that *fait accompli* must necessarily weaken Italy's influence. Hitherto it has been able to count on a certain amount of Anglo-French rivalry on almost any diplomatic issue. In her duel with France in the Balkans she has received considerable aid and comfort from England. It looks now as if she would have to face the combination of these two powers. This may be just, but it is not agreeable—for Italy.

The United States has undoubtedly felt that the agreement made between London and Paris contained provisions that looked to a united front against American arguments on disarmament, and even to coöperation by the two powers concerned against American economic and financial activity in Europe. When we recall the anxiety in this country over the Anglo-Japanese alliance before it was dissolved in 1922 we can appreciate the concern that would be caused by any alliance along these lines between England and France.

Wanted: A Definition

WHEN THE Covenant of the League of Nations was being put together an effort was made to conciliate American opinion and smooth away all possible American prejudice by the provision that nothing in the document should "be deemed to affect the validity of international engagements, such as treaties of arbitration or regional understandings like the Monroe Doctrine." This was Article 21 of the Covenant. Because of the greater obstacle to American adherence that was found in Article 10 it failed of its purpose. At best, it would not have proved entirely acceptable, because the Monroe Doctrine, as the American State Department has always regarded it, does not bear the faintest resemblance to a "regional understanding." The phrase implies a mutuality that never existed.

Monroe did not say what the United States would do in concert with other American powers in case the independence of a nation on this continent was threatened by European aggression. He merely hinted rather broadly what the United States would do on its own initiative, without asking any one's permission. He contemplated, no doubt, that we should sometimes play the good Samaritan, and his famous doctrine was widely applauded in Latin America under that supposition. But the man from Jericho was to have no voice in determining exactly how he should be helped or whether he needed help at all.

As years went by and we lost our illusions as to the immediate perfectability of the Latin American republics the doctrine became frankly one of self-interest. It could be argued that it was a justifiable self-interest, since the first duty of a nation is to survive and to protect its sovereignty. But it no longer assumed in the least degree the nature of a crusade for human rights. The talk of an effective league of American nations, which was taken seriously during the Presidency of John Quincy Adams, was no longer heard.

The subsequent developments of the doctrine are familiar, if not to every school boy, at least to every one who has any concern with Latin America. When Great Britain began to extend her influence along the Mosquito Coast, when France sent bayonets to support the comic-opera throne of Maximilian in Mexico, and again when Great Britain threatened to spill over the borders of Venezuela, the United States vigorously objected. In recent years we have become the policeman of the Caribbean for the simple reason that policing was often needed and that we would not allow any other government to undertake that delicate task.

Whether or not we have policed too often or too strenuously is a debatable question, but there have certainly been numerous instances when there was no other choice. Our position was well stated by Mr. Hughes at Havana last winter. We do not, officially at least, desire to interfere in the internal affairs of any nation. On the other hand, we cannot stand by and see the lives or property of our citizens endangered. Nor can we, if we deny to European governments the right to intervene, allow their citizens to be placed in jeopardy. As long as Latin American governments are weak, unstable, or corrupt, we must be constantly ready to act.

This attitude is entirely plain to the State Department in any given emergency. It does not seem quite plain enough to some of our Latin American neighbors—or perhaps it seems a little too plain. At any rate, Costa Rica appeared at Geneva in September with the request that the doctrine be defined by the Council—technically a perfectly proper request, since the subject is mentioned in the Covenant, and it is among the Council's functions to interpret the Covenant. The petition was rejected, after some debate, apparently with the idea that to act upon it would be to offend the United States. Given the situation, the decision was certainly wise. There is at least a suspicion that Costa Rica's request was due to a desire to cause embarrassment rather than to a yearning for information.

Yet the incident raises the question as to whether a polite restatement of the doctrine in its modern form might not do something to improve relations between the Latin American republics and ourselves. The United States looms in many Latin American minds as the Colossus of the North, more menace than friend. Even where governments are friendly public opinion sometimes is not. What is needed in all our Latin-American relations is some of the unaffectedly cordial spirit that Mr. Morrow has taken to Mexico. This is a subject that our next President might well take up. A little inexpensive courtesy might yield results not only in good will but also in trade.

The Research Magnificent

H. G. WELLS'S phrase, "the research magnificent," might fittingly be applied to the two expeditions—that of Commander Byrd and that of Captain Wilkins—that have set off to explore the Antarctic continent from the air. Earlier Polar expeditions were of the nature of glorious adventures—magnificent sporting events that aroused the admiration of mankind without really adding much to its information. These later ones preserve the color of the others, but they are infinitely more scientific.

In his flight across the Arctic from Alaska to Spitzbergen last spring Captain Wilkins actually went out of his way to avoid passing over the North Pole because his object was to pass over an unexplored area south of the pole. He will show the same abnegation in his Antarctic flights. He and his companions plan to land from a whaler on Deception Island, fly from there to the mainland in their two planes, make a dozen flights from a mainland base, and then return to civilization by way of the Bay of Whales on Ross Sea, where Byrd's party will have its base. There will be no "race" between the two parties. Each has its own job and each will supplement the other.

The Byrd expedition, with its four planes and its elaborate equipment, will be able to work much more systematically than can Wilkins and his companions. Byrd will lay down bases on the inland ice, make an effort to reach the Pole, and conduct aërial surveys in portions of the interior that have never been seen by the human eye.

The Antarctic continent is larger than the United States. Only the rim and the lines traversed by the Amundsen and Scott expeditions on their journeys to and from the Pole have ever been looked upon by man. The interior is a desert of ice, apparently wholly devoid of any form of life, as lonely and forbidding as the mountains of the moon. At the very best the conditions that the explorers must encounter are terrifically dangerous. Mountain ranges rising two miles into the air, winds that blow with a force not known anywhere else in the world, blizzards that come on in a few minutes without warning and sometimes last for many days, a cold far greater than that of the Arctic—these are the menaces that must be encountered.

The information that the two parties, with luck, will bring back should have considerable scientific value. The geography and geology of the great white continent, the sources of its weather, the evidences of extinct forms of life, the extent to which life in any form now exists, all furnish thrilling subjects of study. But there are thrilling subjects of study in any laboratory. What has sent these explorers forth on so desperate an adventure is an impulse that lies far deeper than the modern scientific curiosity. It is only secondarily a desire to learn about nature, it is primarily an ambition to measure human strength and ingenuity against nature.

This yearning must be as old as the cave man. It is the quality, present in at least a few men in every generation, that has carried mankind forward in its conquest of new lands and strange seas, and has given it dominion over the earth. The best thing that can be said about civilization is that this ancient heritage of valor still survives. The explorers vindicate one's confidence in humanity.

China and the League

CHINA CONTINUES to present awkward problems for statesmen both in and out of Asia. The momentary stir that occurred when Washington recognized the Nanking Government has passed without any momentous consequences. Britain and France will probably follow the American example in course of time. And Japan can hardly afford to place herself in permanent opposition to the Nanking régime. A solution will of course have to be found for the difficulties in Manchuria, but both parties have so much more to gain from a peaceful settlement than from a quarrel that the prospects are good even in that troubled quarter.

Meantime, China has asked to be reelected to the Council of the League. Regarding the League as an association of peoples there is no doubt that China, because of her enormous size and population as well as because of her ancient civilization, would be entitled to adequate representation. Strictly speaking, however, the League is an organization of governments. China's position as a member of the Council in past years has furnished an amusing element in the work of the League. There have been times when the rest of the members certainly did not know what government the Chinese delegate represented, and there may well have been times when he himself did not know. Now that China has a government and its representative can speak with some measure of authority for his country there is much more justification for giving China representation on the Council. Yet the competition for seats is keen, and such countries as Persia and Siam have pretensions of their own to take their turn as representatives of Asia at the Council table.

The plain truth of the matter is that China was elected to the Council too soon. If the seats had been passed around among some of the other countries during the years when China's government was wholly undefined, China most properly could have been elected to the Council this year. Such action would have been at once a recognition of the new régime and an opportunity for China to work more effectively with the League.

That water has gone over the dam. There are, however, some aspects of the relations between China and the League that are worthy of present consideration. China has a vast problem of reorganization—governmental, economic, financial. It is just the kind of problem that the League has handled with considerable success in Austria and in Hungary. While success in these small and comparatively well-organized countries does not mean that a like success can necessarily be achieved in the incomparably more intricate problem facing China, nevertheless there are possibilities here that seem well worth exploring. If the world can assist China through the medium of the League or otherwise a way should be found to do it.

The League of course does not offer its assistance. It simply responds to requests. China would therefore have to take the initiative if anything is to be done. The Chinese have an exaggerated fear of "international control." They would certainly not make any overtures for League assistance if there was any possibility of this opening the way for international interference with Chinese affairs. Obviously, it would be much easier for the Chinese Government to request League assistance if its representative has a seat at the Council table than if the Chinese were in a state of resentment at a refusal to give China such a seat.

China's presence in the Council would be a prerequisite. But the difficulties do not end there. The United States considers its interest in China quite as important as that of the other powers. Furthermore, money would be needed for the work in China and much of that money would have to come from the United States. While American bankers participated in the Austrian and Hungarian loans without question as to the League's action, a question might well be raised if a similar operation were undertaken in China. Some would undoubtedly see in such a movement an attempt to establish European and Japanese influence at the expense of American interests.

Here the appointment of an American by the League as Commissioner in Hungary might well afford a precedent. If China requested League assistance and the League decided to undertake the task, American interests might be assured of due consideration by the appointment of an American Commissioner for the League.

There remains Japan. Her interests in China are perhaps more vital to her national life than are those of any other country. And she might have a fear that a League-American combination would imperil her interests. Such a fear would be quite as justified as the American fear of League activities in China without American participation. A possible solution might be found in appointing a Japanese assistant commissioner.

The problems in connection with such a plan would be almost endless, but it may well be that through some such arrangement the other nations of the world can find a means of coöperating with China for the reorganization and reëstablishment of her national life in a manner that would be acceptable to her and highly advantageous to all concerned.

Our Next President—Who He Will Be

An Analysis of the Preëlection Polls

JAMES C. YOUNG

HERBERT HOOVER will be the next President of the United States. That much has been settled, so far as any election can be settled by the principal straw votes of the country. Moreover, he is going to be elected by the women. And the decision is likely to hinge upon two or three states, probably in the Middle West.

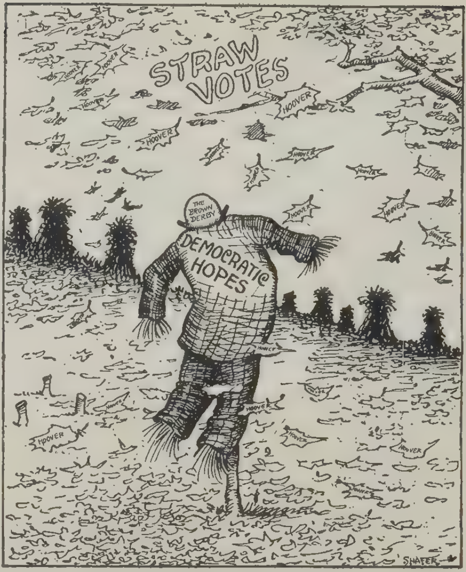
It used to be said that straw votes meant nothing, but four years ago *The Literary Digest* proved that it is possible to hold an electoral referendum before election day. In a national poll among all classes that magazine predicted the election of Coolidge by 56.50 per cent. of the vote. He actually received 55.21. The straw vote gave La Follette one state, Davis twelve, and Coolidge thirty-five. The result sustained that conclusion exactly, but Kentucky switched from the Democratic column, where the poll had placed it, and Oklahoma switched from the Republican.

This year the magazine has extended its poll to 19,000,000 ballots, an enterprise unequalled in journalism. The poll is still in progress at the moment of writing, but shows that Hoover will be President unless an astonishing reversal takes place at the polls. Another nation-wide poll by the Hearst newspapers yields the same result. Two other important polls support the first two—one by *The Pathfinder* and the other by *The Farm Journal*. Thus we have the phenomenon of knowing in advance who will be President, a new development in our political experience.

Let us glance at *The Pathfinder* poll, as a complete result. Hoover received 233,315 ballots against 197,408 for Smith. The electoral vote in states where there were clear majorities gave Hoover 228 and Smith 117, leaving 186 votes to be classified "close." That term is enigmatic, and upon its interpretation the election hinges. Since 266 votes are necessary to elect, the 186 in the "close" category are abundantly sufficient to decide the election. According to this poll the states clearly Republican or democratic line up in this way:

SMITH	ELECTORAL VOTES
Alabama	12
Arkansas	9
Florida	6
Georgia	14
Louisiana	10
Mississippi	10
Nevada	3
South Carolina	9
Tennessee	12
Texas	20
Virginia	12
	117
HOOVER	
Arizona	3
California	13
Colorado	6
Delaware	3
Indiana	15
Iowa	13
Kansas	10
Michigan	15
Minnesota	12
Nebraska	8
Montana	4
Maine	6
New Hampshire	4
North Dakota	5
Ohio	24
Oregon	5
Pennsylvania	38
South Dakota	5
Utah	4
Vermont	4
West Virginia	8
Washington	7
Wyoming	3
Wisconsin	13
	228

Now it will be observed that *The Pathfinder* poll gives Tennessee to Smith and



THE LEAVES ARE BEGINNING TO FALL
A cartoon by Shafer in *The Cincinnati Times-Star.*

indicates North Carolina is close. Should the state go Democratic, the solid South remains solid, greatly strengthening the Smith chances elsewhere. Nevada, a state of mixed allegiance in Presidential years, is given to the Democrats. Otherwise, *The Pathfinder* poll leaves the nation largely in the balance, which may be considered significant and favorable to Smith, as Hoover supposedly enjoys the advantages of Republican control for eight years. That a Democratic opponent can unsettle this control to the extent indicated by the poll is no slight accomplishment politically.

Only one President has lost New York and returned a victor from the polls—President Wilson, in 1916. This year New York may well decide the issue, but that can be said of a half-dozen other states. Anyway, *The Pathfinder* poll gives Hoover 17,005 votes and Smith 17,359, a precarious margin. In Illinois the division is equally acute—15,425 for Hoover, 14,945 for Smith. Massachusetts is divided 4,478, Hoover; 4,971, Smith. Connecticut follows with 2,321, Hoover; Smith 2,004. In Wisconsin Hoover draws away, 6,117 to 4,339. And Wisconsin is a state on which the Smith hopes depend. It would offset the loss of North Carolina or Tennessee and, should both remain loyal, become a distinct gain. Missouri, another tender spot, voted 7,468 for Hoover, 6,414 for Smith. Kentucky swings doubtfully, 10,979 for Hoover, 10,153 for Smith. North Carolina had 6,985 votes for Smith and 6,512 for Hoover—anybody's state. Maryland gives Smith 2,178 and Hoover 1,903.

So the figures run throughout the country, tending to decide little except comfortable majorities for Hoover in Pennsylvania and Ohio and the western tier of states, normally Republican. With Nevada Democratic, Idaho, New Mexico, and Oklahoma remain doubtful. Should *The Pathfinder's* poll prove a reliable weather vane the election can be said to depend on any one of these states — Oklahoma, Missouri, Illinois, Kentucky, North Carolina, Maryland, Delaware, New Jersey, New York, Connecticut, Rhode Island, and Massachusetts. Note the further fact that, inasmuch as these states are divided geographically and politically, nothing is certain except the fact that we are going to have a real, old-fashioned election, the first since 1916 that anybody has cared about to any degree. In 1924, the total vote was 29,091,417, about 3,000,000 more than in 1920. At least that many additional votes are expected on November 6th—the broadest referendum ever held in any country.

It is interesting to measure *The Pathfinder's* results by *The Farm Journal* poll. This publication, having a national circulation among farmers, has endeavored to find out where their sentiments lie. It classes twelve states for Smith, twenty for Hoover, and sixteen as doubtful. Again the large percentage of doubt is apparent. Here are the states that it is believed will be found in the two columns:

SMITH	ELECTORAL VOTES
Alabama	12
Arizona	3
Florida	6
Georgia	14
Louisiana	10

SMITH	ELECTORAL VOTES
Mississippi	10
Nevada	3
New Mexico	3
North Carolina	12
South Carolina	9
Tennessee	12
Wyoming	3
	97

HOOVER	
California	13
Colorado	6
Delaware	3
Idaho	4
Illinois	29
Iowa	13
Kansas	10
Maine	6
Maryland	8
Massachusetts	18
New Hampshire	4
New Jersey	14
Ohio	24
Oregon	5
Pennsylvania	38
Rhode Island	5
Utah	4
Vermont	4
Washington	7
West Virginia	8
	223

In several ways *The Farm Journal* poll is encouraging to Hoover. It gives him practically the same electoral vote as *The Pathfinder*, though by a different alignment. But it reduces Smith's certainty by twenty votes. And Smith is in no position to lose twenty votes among the farmers. This poll is enlightening in other respects. No state was granted to a candidate unless he had a substantial majority. Looking at the list, we find Nevada is safe in the Smith column, supporting *The Pathfinder*. We see New Mexico and North Carolina taken out of the doubtful list in Smith's favor and Arizona and Wyoming switched from Hoover. Tennessee stays in the fold.

Although Hoover does not take a state from the Smith column, he gains vastly in the doubtful states, judged by *The Farm Journal* returns. The list is impressive—Idaho, Illinois, Maryland, Massachusetts, New Jersey, Rhode Island, or 78 electoral votes. An observer would be inclined to say that Smith cannot win if these states go Republican. Yet it must be remembered that *The Farm Journal* poll is exclusively among rural voters.

The Hearst newspaper poll has run well above a million votes, giving Hoover a steady gain. Taking their figures on a recent day, and judging by apparently sufficient majorities, the Smith and Hoover returns assure these states to each:

SMITH	ELECTORAL VOTES
Alabama	12
Colorado	6
Georgia	14
Arkansas	9
Louisiana	10
Mississippi	10
Missouri	18
South Carolina	9
Wisconsin	13
	101

HOOVER	
Arizona	3
California	13
Delaware	3
Idaho	4
Illinois	29
Indiana	15
Iowa	13
Kansas	10
Maine	6
Michigan	15
Maryland	8
Minnesota	12
Nebraska	8
New Hampshire	4
North Carolina	12
Ohio	24
Oklahoma	10
Oregon	5
Pennsylvania	38
South Dakota	5
Tennessee	12
Texas	20
Utah	4
Vermont	4
Washington	7
West Virginia	8
Wyoming	3
	285

If the election bears out these indicated results, Hoover will easily be elected, as he requires only 266 ballots in the electoral college. The Hearst compilation reveals several surprises. Tennessee, Texas, and North Carolina are taken from the Smith column and Florida made doubtful. Even Virginia shows a close vote. But Colorado, a Republican stronghold, goes to Smith, along with Wisconsin, ever doubtful.

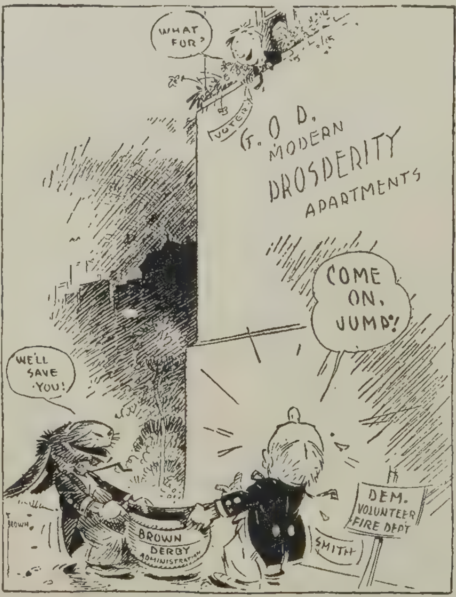
Hoover sweeps the country, leaving a few of the principal states uncertain. According to this poll he recovers Arizona and conquers in the sometimes doubtful states of Idaho, Illinois, Maryland, Oklahoma, and three in the Solid South. The important states hanging in the scales in addition to those named above are Connecticut, Kentucky, Massachusetts, Montana, New Jersey, Nevada, New Mexico, New York, North Dakota, and Rhode Island.

The Hearst poll brings out strongly the women's trend to Hoover. When the men's combined vote had reached 481,333, there was a difference of only 22,505 in favor of Hoover. At the same time the combined women's vote of 269,576 gave the Republican candidate a majority of 42,284. Roughly, this was twice the majority of the male vote, from a little more than half the number of women.

Lastly, and the best indication of all, we have *The Literary Digest* poll. It gives these states to Hoover, with the reservation that later returns may change the result—California, Connecticut, Illinois, Indiana, Maine, Maryland, Massachusetts, Michigan, Nebraska, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Vermont, Washington, and Wisconsin, embracing 278 electoral votes. Should this forecast be borne out on election day the result will be settled beyond question

Study of *The Literary Digest* poll indicates that Hoover's share of the ballots will run above 60 per cent. But it is to be noted that Hoover is losing votes where they count for the most: in the opposition column. Smith undoubtedly will have a reduced vote in the southern states, though enough to win in all but one or two—if not in all. The votes he gains in the doubtful states are of more value than those he loses in the South. More than half of his total vote reported to *The Literary Digest* will come from Republican voters of 1924. He bids fair to muster twice the strength of Davis. Everywhere the rural vote goes against the Democrat and the cities generally support him, some of them in confirmed Republican centers, such as St. Louis and Providence.

The polls are somewhat contradictory in details, but they offer a surprising unanimity in the mass. So we may predict, two weeks before the election, that the next President of these United States will be a fisherman, engineer, executive, and world traveler named Herbert Hoover.



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THEY MIGHT AT LEAST WAIT UNTIL THERE'S A FIRE

A cartoon by Brown in *The New York Herald Tribune.*

The Mathematics of the Election

An Analysis of the Factors in the Campaign

MARK SULLIVAN

THERE ARE 531 electoral votes, distributed among the states in the proportion of one for each Senator and one for each Member of the Lower House of Congress. To win, the Presidential candidate must get a majority, 266.

For understanding the campaign, it is convenient to make an arbitrary grouping of the states: Eastern, Southern, Border, Mid-Western, and Western. It will make for simplicity also if we consider the whole situation in terms of the chances of one of the candidates—for convenience' sake, Governor Smith. Governor Smith's chances, the means by which he could win, as seen at the time the campaign began, could be expressed in a terse summary of many complex factors: "He must hold the South, carry the East, and pick up some odd states in the rest of the country."

By the South, in the present grouping, is meant ten states that have never gone other than Democratic since the period following the Civil War. They are:

Virginia	12
North Carolina	12
South Carolina	9
Florida	6
Georgia	14
Alabama	12
Mississippi	10
Louisiana	10
Arkansas	9
Texas	20
	114

If Smith should carry the Solid South, as every Democratic candidate for fifty years has done, he would have a formidable start of 114 toward his needed 266. Very early in the campaign, however, it became apparent that there was in the South an intense acceleration of a movement that has been under way for thirty-two years. Until the election of 1896, the Solid South consisted of fourteen states. In that year Maryland and Kentucky dropped off the edge and into the doubtful list by going against Bryan. (In the case of Kentucky, the closeness of the election and the other circumstances were such as hardly to make Kentucky at that time a doubtful state.) From 1896 to 1904, the Solid South was twelve states. In that year Missouri slipped into the doubtful list by going for Roosevelt. From 1904 to 1920, the Solid South was eleven states. In the Harding election of that year Tennessee dropped into the doubtful list. In 1924, Kentucky became definitely doubtful by going for Mr. Coolidge against Mr. Davis. To-day, the Solid South consists of the ten states named above.

The process by which the Solid South has narrowed is a historical evolution. The reasons that made the South solidly Democratic were associated with the Civil War. In proportion as that war became more distant in time, the solidarity of the South tended to diminish. Time went hand-in-hand with an economic evolution. As farming became less exclusively the South's economic concern, as industry and business became more important, the South tended toward the political party associated with the protective tariff.

This tendency is speeded up in the present campaign. The leading commercial periodical in the South—*The Manufacturers' Record*, which is to the business South what *The Wall Street Journal* or *The Journal of Commerce* is to the business community of New York—is frankly and forcefully for Hoover. Business men in the South who for years have wished to support the Republican party, but have been deterred by deference to the political traditions of their communities—such business men in the present campaign are able to be openly for Hoover without offending their communities, because there is a condition that has caused much of the communities themselves to be prevailingly for Hoover.

The condition giving rise to widespread opposition to Smith in the South is complex. It includes strong disapproval of Governor Smith's wetness, a suspicion about Tammany, inherited partly from William J. Bryan's hostility to that institution, a similar suspicion about New York City as a city mainly alien in population, and to some extent the prejudice against the Roman Catholic Church held by some communities that are strongly Protestant, especially isolated communities, as in much of the South, where there are few Catholic churches, or none.

Not all the South's defection will be of the nature of opposition to Smith. Much of it will be primarily an affirmative preference for Hoover. No matter who the Democratic nominee, Hoover would have got, on his own personality and record, more votes in the South than any previous Republican candidate.

Whatever the proportions of the various causes, the net result is that this election seems certain to produce a further narrowing of the Solid South. It is perfectly clear that some states formerly listed confidently as "Democratic" must already, as of today, even before the election, be listed as doubtful. How many, and what ones, will go for Hoover is a matter for extremely cautious judgment, and in any event would be a prediction. As of the time this article is written, a reasonable estimate would be that Smith will lose two of the hitherto solidly Democratic Southern states, and will get from that section not more than roughly 90 toward his needed 266 electoral votes.

In the arbitrary grouping in this article, the Eastern states are Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Delaware, and Maryland. In estimating Smith's chances, we may at once eliminate four states from this group: Maine, New Hampshire, Vermont, and Pennsylvania. These four are dependably Republican states; none of them has ever gone Democratic in a Presidential election except New Hampshire, and that but twice. There remain the following Eastern states that Smith has a chance to carry:

New York	45
Massachusetts	18
Connecticut	7
Rhode Island	5
New Jersey	14
Delaware	3
Maryland	8
	100

Here are 100 electoral votes, of the needed 266, that Smith has a chance to get. "A chance" is a variable term. As respects these states, the chance varies somewhat with each state and, in the judgment of politicians, has varied with the course of the campaign. In the beginning, Smith's chances in these seven Eastern states were regarded as at least even and perhaps more than even. These were the states, out of the entire forty-eight, that were regarded as most promising for Smith (excepting, of course, the Democratic Solid South). Most of the population of these states was prevailingly urban, similar in make-up, in one degree or another, to New York City, which Smith has always carried; most of these states had been subject to the influence of the long, determined campaign against prohibition that most of the New York City newspapers have carried on.

But these states are also mainly industrial. As the campaign developed, the Republicans stressed the tariff, together with that broad set of conditions associated with the Coolidge Administration that on the whole constitutes the greatest and most widely diffused prosperity any industrial country in history has ever known. What is here said about the East applies to the whole country, except some parts of the farm territory in the West, some of the textile industry in New England, and coal mining. The country as a whole is conscious of immense well-being, a psychological condition weighing heavily, almost invincibly, in favor of whatever party is in power. Leaders of every branch of industry and business, including most

THREE TITANS OF "DISTRIBUTED CONTENTMENT"
The general satisfaction with the material well-being throughout the country was recently symbolized by the newspaper caption: "If you had these three men working for you, would you fire them?"

leaders of labor, felt that merely to change—even if there were complete confidence in the new party—would cause economic hesitation or worse.

Such business leaders as had come out for Smith early in the campaign had been those so confident of prosperity that they could apprehend no menace to it; or they were in special lines of industry not so clearly dependent on the protective tariff and other Republican policies; or they were so earnestly opposed to prohibition that they placed their wetness above business considerations.

The later and far more general attitude of business was illustrated by the curious division among the Du Ponts. Immediately after the nomination of Governor Smith, a high and conspicuous official of General Motors and the Du Pont interests, John J. Raskob, became Smith's campaign manager under spectacular circumstances. He had been a Republican, he had helped collect funds for the Republicans in the 1924 Presidential campaign, and he was a member of one of the Republican sancta sanctorums, the Union League of Philadelphia. But he was for Smith, for reasons that were summed up emphatically in one of the phrases he used—because he wanted to get rid of "the damnable infliction of prohibition." A little later, also early in the campaign, Mr. Raskob was joined by Pierre du Pont, likewise a high official of General Motors and other Du Pont interests, who put his support of Smith on the same ground as Mr. Raskob—dislike of prohibition.

When the campaign had reached a later stage of reflection, in the closing days of August, another Du Pont, Lammot, President of the Du Pont Company, announced his position. He said he was acquainted with the prominent Republican business men who had declared for Smith, that he was familiar with their reason, that he agreed with their profound disapproval of prohibition—but, he said:

"I do not agree that prohibition is of paramount importance, nor that all other questions, out of deference to it, should go by the board or be left to settle themselves. . . . A group of problems before the government of this country which, as a group, are more important than prohibition are those subjects which involve the economic welfare of its people—the tariff, farm relief, railway regulation, Federal Reserve, government ownership, and so forth. . . . Under Republican government for the past eight years, and in some periods before, we have had prosperity. Under Democratic administration we have had less prosperity and, usually, hard times. It seems reasonable to suppose that this difference will maintain in the future, or at least until such time as the Democratic party makes a radical change in the principles which govern its economic view."

This conservative standpoint, and the kind of leadership typified by the Du Pont who last expressed himself, became the prevailing view in the Eastern states, which the Smith forces had hoped to carry on the wet issue. To it were added the business men who favored prohibition throughout, who would have voted against Smith had the issue been prohibition alone—these were at all times a majority of all business men.

To the business leaders and rank and file opposing Smith were added many labor leaders. In short, the East and the country as a whole prevailingly tended to pass into a mood suggested by a striking photograph taken when Mr. Coolidge returned from his summer vacation to resume his residence at the White House. The photograph was of three men standing in a row, Mr. Coolidge, Mr. Mellon, and Mr. Hoover, each impressive in himself, each more impressive for things he symbolized to the public, and the three as a group symbolic of the immense well-being, the "distributed contentment" that practically every American has shared during the Administration of which these three men were, each in his way, Titans.

Some newspapers put the mood of this photograph into a caption, the more persuasive because not truculently argumentative, "If you had these three men working for you, would you fire them?" It was an appealing epitome, in picture form, of the condition that argues in favor of every party that is in power whenever its Administration is accompanied by prosperity.

As the conviction became general that the principal issue at stake was the preservation of prosperity, Smith's chances of carrying the East became less. How many of these seven Eastern states and of these one hundred electoral votes Smith may get would be fantastic to estimate. The early blue print, so to speak, of how he could win in the country, went on the assumption that he should get all or nearly all these hundred Eastern electoral votes. He might get only half of them and still conceivably win the country. If he should lose all of them, he would be very badly beaten indeed. Estimate is made intricate by the fact that of the East's hundred electoral votes nearly half, or 45, are in one state, Smith's own New York.

In proportion as it became less likely that Smith would get the whole 100 electoral votes in the doubtful East, did it become necessary for him to get from the West more than the West had been counted on to supply in the earlier lay-out of the campaign. The West, in the present classification, consists of all the states West of the Mississippi, omitting Missouri and Oklahoma and the three trans-Mississippi states already classified as Southern:

Minnesota	12
Iowa	13
Kansas	10
Nebraska	8
North Dakota	5
South Dakota	5
Colorado	6
Wyoming	3
Montana	4
Idaho	4
Washington	7
Oregon	5
Utah	4
California	13
Nevada	3
Arizona	3
New Mexico	3

No one of these states was carried by the Democrats four years ago. No one of them was carried by the Democrats eight years ago. (To this apparent record of inhospitality by the West to the Democrats, there is a qualification: in 1924, there was a third ticket, La Follette's; and in nine of the Western states, the La Follette vote, added to the Democratic vote, was greater than the Republican vote.)

Governor Smith in person entered the

West on September 18th and remained nearly two weeks. In his first speech, at Omaha, he answered a question:

"Do you regard liquor as the great issue in this campaign?"

Smith replied: "I certainly do not."

That was an off-hand answer to one of several questions, and may not have reflected Smith's deliberate mind. It did, however, reflect the current fact that prohibition had ebbed from the prominence it had had earlier in the campaign.

Most of Smith's Omaha speech he devoted to the farm problem. The greater part of his treatment consisted of a recital of past Republican platform promises, with humorous derision about the failure of Republican performance. That, to the farmers, was not new. It was in the nature of diagnosis, and while Smith did it more wittily and colloquially than any one else, he could not possibly add anything to the quantity of diagnosis the farmers have listened to in national and local campaigns during eight years past. For his contribution to solution, Smith said that, *first*, he favored "the principle" of the McNary-Haugen bill (which Mr. Coolidge vetoed), and *second*, he would, if elected, "name a non-partisan commission of farm leaders and students of the problem." He did not, however, endorse—indeed, he explicitly refrained from endorsing—the "equalization fee," which Mr. Coolidge called the "kernel" of the McNary-Haugen bill.

The McNary-Haugen bill probably counts for less in Smith's chance to win states in the West, than the impression made by his personality. And the disposition of the farmers' vote will probably be determined less by consideration of intricacies in the McNary-Haugen bill, than by the individual farmer's personal mood on election day. The farmer's mood, in turn, will be affected by prevailing prices for his crops. The price of wheat was low throughout September. Out of this the Democrats got hope, and it is a fact that in some past Presidential elections the vote of the West has been influenced by the current price of wheat. But this year, if wheat is low, cattle and hogs are high, and in the West as a whole cattle and hogs are a much more important crop than wheat. Conditions in the farming West have been improving markedly, and there is comparatively little reason to expect that the West this year will vote otherwise than normally, which probably means that Smith would be doing exceptionally well if he should carry as many as five out of the seventeen Western states. As Smith ended his western trip, about October 1st, the states that seemed most favorable to him were Minnesota, North Dakota, Montana, Nevada, and New Mexico. Their aggregate of electoral votes is 27. Smith will need every one of these to win; indeed, 27 electoral votes from the West is hardly enough.

The Mid-Western group of states is:

Ohio	24
Indiana	15
Illinois	29
Michigan	15
Wisconsin	13

This group is expected to vote normally, which means Ohio, Indiana, Illinois, and Michigan going Republican. Wisconsin is an eccentric state. While it rarely goes Democratic, its Republicanism is of an individual, La Follette variety. In the coming election, it would not be surprising if Wisconsin should go to Smith.

There remain the border states, border both in the geographical meaning and in the sense of being, as to most of them, delicately poised as a rule between Republican and Democrat. They are:

Oklahoma	10
Missouri	18
Kentucky	13
Tennessee	12
West Virginia	8

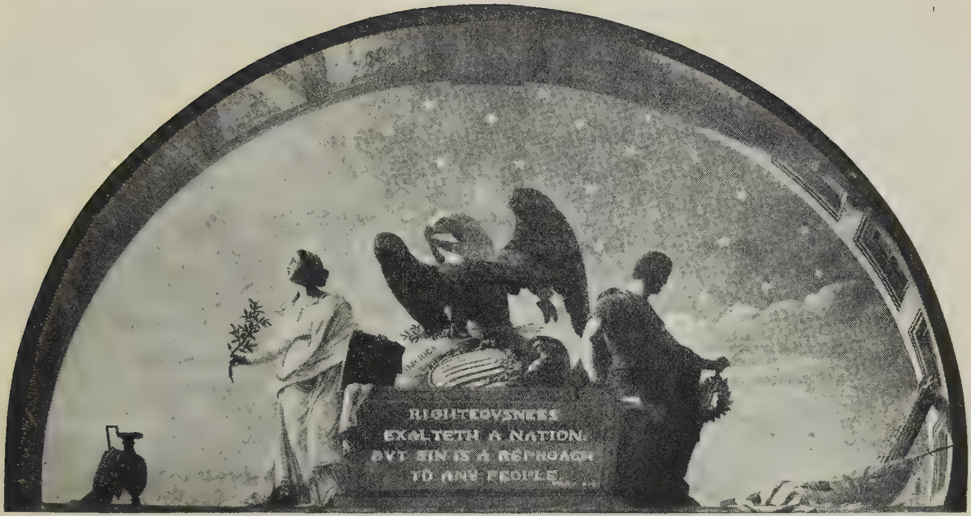
As border states, these have all a Southern tinge. If, in the heart of the real South, there is enough divergence from the Democrats to make such a state as North Carolina doubtful, it follows that the border states are, in this election, unlikely to be for Smith. The one possible exception is Missouri. Missouri has a large city, St. Louis; and one of the most nearly reliable guides in this confused national election is to assume that big cities will cast large votes for Smith. It seems safe to assume that Smith will have a majority, large or small, in practically every large city in the country. The exceptions to this statement would be Los Angeles, the one really large city that is dry, and Portland, Oregon, with perhaps a few others.

Keeping, for convenience' sake, the point of view of making a hypothetical blueprint of possible victory for Smith, we should begin by giving him the whole Solid South with 114 electoral votes. We should next be obliged to concede to Smith practically all the Eastern doubtful states. Assume that Smith carries all these except Connecticut (which is the most Republican of the group), he would thus have 93 electoral votes from the East. These, added to 114 from the Solid South, give him 207 toward his needed 266. Give him next 27 electoral votes from the West. The total is now 234. Add Wisconsin with 13 and he has 247. Concede that among the border states he will win Missouri with 18 electoral votes. This carries him to 265, or just short of victory. The 1 might be eked out by some small Western state.

This calculation, however, is subject to going wrong in several ways. If Smith should lose one of the doubtful Eastern states in addition to Connecticut—if he should lose New Jersey, for example—the calculation would be upset. If he should lose any one of the Southern Democratic states—North Carolina, for example—the calculation would be upset. The one safe generalization at the end of the campaign is the same as at the beginning—if Smith should be able to make a clean sweep of the doubtful Eastern states with their 100 electoral votes, and at the same time hold the South solid, he would almost certainly win the election.

This outcome was not indicated by the most dependable barometer we have. In early September, Maine, in a local election including Governor and United States Senator, went Republican in the proportion of about 69 to 31. This was an immense, unprecedented Republican victory. The use of Maine as a barometer goes on the assumption, with some qualifications, that its three quarters of a million people are an accurate miniature, a laboratory specimen of the whole country's 118 million. The assumption is not accurately expressed in the loose phrase "as goes Maine so goes the nation." What can be deduced from Maine elections in the past can be expressed roughly thus: Whenever in a Maine September election, about 56 out of each 100 voters are Republican, it is likely that the election in the country as a whole will be close; when the Republican proportion falls below 56 per cent., the national election is likely to go Democratic; when the Republican proportion goes above 56 per cent., the national election is likely to go Republican.

For example, in 1924, in the Maine September election, the Republicans cast 57 per cent. of the total vote—and the election in the country went Republican by a majority that was quite narrow, compared with the combined vote for the Democrats and the La Follette ticket. In 1920, in the Maine September election, the Republicans cast 65 per cent. of the total vote—and the election in the country went Republican heavily. In 1916, in the Maine September election, the Republicans cast only 54 per cent. of the total vote—and the election in the country went Democratic. Similar comparisons going back forty years support the same deduction, that when in the Maine September election the Republicans cast more than 56 per cent. of the total vote, the election in the country is likely to go Republican. If this deduction is applied to the present year, when the Republicans cast 69 per cent. of the vote in Maine, it would be necessary to regard it as a forecast of a formidable Republican victory in the country.



Pershing's Job To-day

What the War-time Leader Does

BRIGADIER-GENERAL HENRY J. REILLY, O. R. C.

"RIGHTEOUSNESS exalteth a nation, but sin is a reproach to any people."

Cadet John J. Pershing, U. S. Corps of Cadets, for four years saw these words above the altar every Sunday as he sat in the old chapel at West Point. What General of the Armies John J. Pershing is doing to-day, more than forty years after he graduated from that school on the Hudson, which has produced most of our great generals, is largely the result of these words.

The old chapel in which Grant, Sherman, Sheridan, Lee, Longstreet, Stuart, and a long list of others, the mere mention of whose names must stir the blood of every American, also sat and looked for four years at these same words in the midst of the allegorical painting that illustrates them, still stands. Become too small for the Corps of Cadets, which increases proportionately to our growing population, it had to give place to a newer and larger church. Too precious because of its memories, it was moved carefully stone by stone to the entrance of the cemetery where lie in some cases two and three generations of the same family.

Like every one else in Washington I knew that the General lived quietly, mostly seeing his family and friends; that his principal interests were seeing the living veterans of the A. E. F. succeed in life; adequately commemorating in France the deeds of that force and the sacrifice of its dead; and the successful completion of the Episcopal Cathedral on Mount Saint Alban, in our capital city.

Having first encountered John J. Pershing in the Far East when he was a Captain of Regular Cavalry and I was a Second-Lieutenant of the same service, I knew his determined, even relentless, efficiency. The way in which he overcame every conceivable obstacle and formed the American troops in France into an American Army under their own flag and own leaders and led them to victory was no surprise to those who had known him in the Regular Army. In various conversations with him in Paris and in Washington concerning the memorials to our dead a deeper Pershing, hidden before, a Pershing the fundamentals of whose actions are based on deep religious conviction, commenced to appear. Recently on two different occasions I spent a day with him, at the modest place he had rented for the summer not far from Winchester, Virginia.

Simplicity of living is always characteristic of the General. In the winter time he lives at a club in Washington. A modest sitting room and bedroom so far from luxury as to be almost Spartan satisfy him. His bed is narrow. A fairly large flat-top table for writing purposes, a few chairs, with one exception straight-backed, a reading lamp such as can be bought anywhere, a plain bookcase filled with books, and the few pictures hung as part of the club furnishing before the General took possession constitute everything to be seen in the sitting room.

His summer home is on top of the western edge of the Blue Ridge Mountains. It commands a splendid view of the Shenandoah Valley, the scene of so many marches and combats of our Civil War. Standing on the porch, the General pointed out to his two sisters, his brother, his son, and myself some of the historic points visible. This led to a discussion of the valley campaigns. During it the General showed that a thorough analysis on his part had brought him to the conclusion that "Stonewall" Jackson's military efficiency, backed up by a determined character based on deep religious conviction, gave him a tremendous advantage over his various opponents.

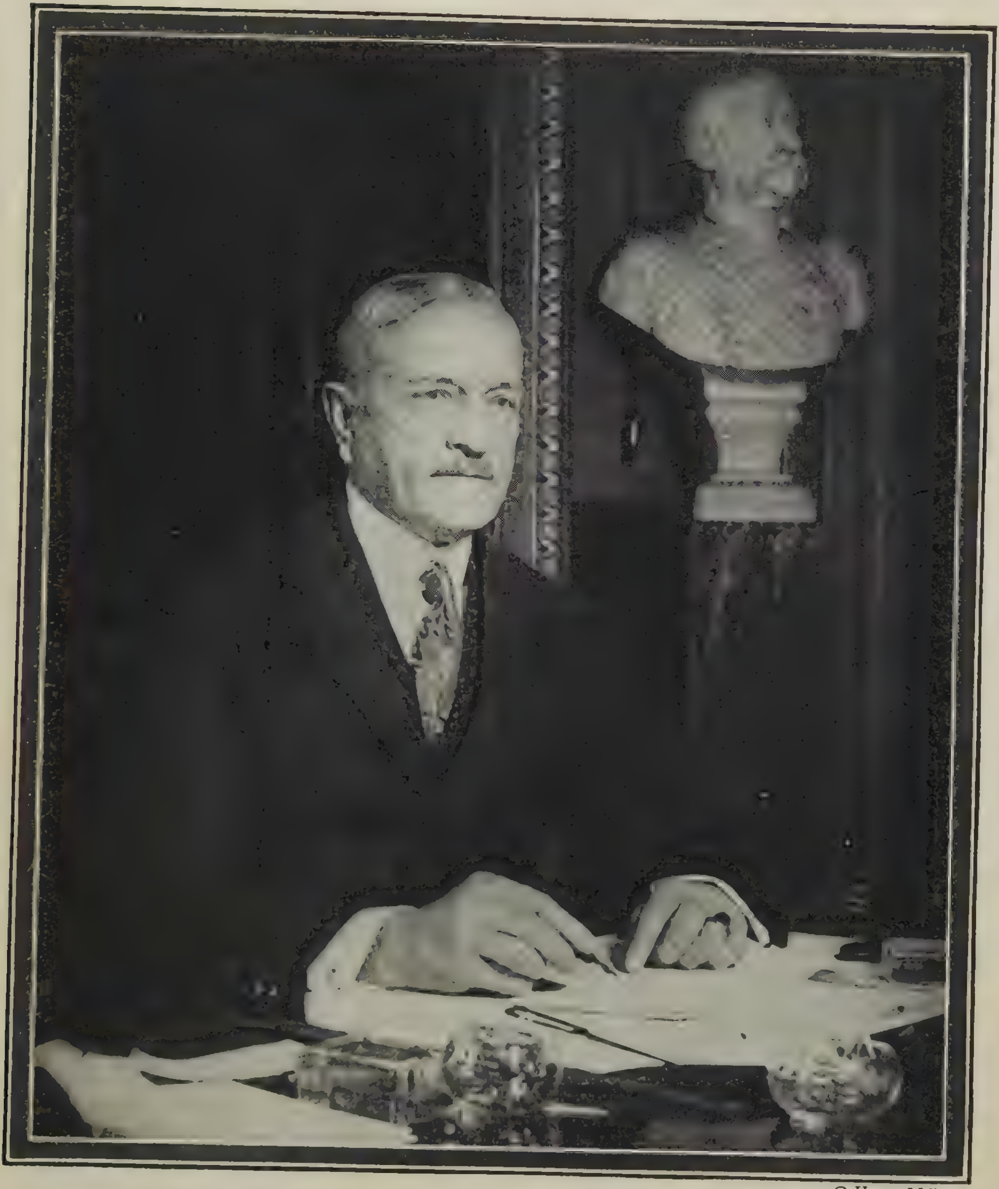
Later, we talked about what the Mount Saint Alban Cathedral would mean to Washington and the country; about the battle memorials and the war cemeteries and chapels in Europe, and the completion of the tomb of the Unknown Soldier in Arlington National Cemetery facing the Lincoln Memorial just across the Potomac River. The General was interested, greatly so; he spoke with deep feeling, even at times with inspiration. He kept coming back to the fact that this nation could never have overcome the difficulties it has and reached its present position without a desire for righteous conduct based on religion; that this must be understood and preserved.

Finally, I asked the question long on the tip of my tongue but over which I had hesitated because of the General's shyness—the two million who served in the A. E. F. don't believe him shy; he isn't when he is after people to get something difficult done, but he is when talking about himself—"General Pershing, for everything you have shown should be done you give as the fundamental reason the necessity for righteousness in a nation. Is there any particular event that has fixed that in your mind?"

He answered: "The words over the altar of the old chapel at West Point, familiar to all cadets in my day, are expressive of the principle that should guide the American people: 'Righteousness exalteth a nation, but sin is a reproach to any people.'"

What does he do, perched up on the top of the Blue Ridge Mountains, miles away from Washington or any summer resort? He lives the simple life he likes. He rides on a horse, not in a motor car, all over the surrounding country. On these rides he chats with the people who live in that section of the country. He spends part of his time making notes about and putting down recollections concerning his experiences in command of the A. E. F. in France. He is keenly interested in modern scientific developments. On my last trip to see him he was full of the details and the perfection of the color photography process that he had just come back from witnessing in Rochester as the result of an invitation from the president of the Eastman Kodak Company.

He is always interested in everything concerning our national affairs and international relations. He follows the main lines of the present political campaign but has no desire to mix in partisan politics. This interest in the questions of to-day, the method of solution of which will determine the nation's future, and the General's belief that righteousness must



© Henry Miller

AT HIS DESK IN THE WAR DEPARTMENT

be the determining factor, are the reasons for his interest in the Mount Saint Alban's Cathedral in Washington. In answers to my questions he told something of the practical work he is doing to help build the cathedral, and he emphasized the moral value to the nation. His final words were: "The capital of the nation that owes its very existence, its wonderful growth, its prosperity in peace, and its courage in adversity to an abiding faith in God should have such a religious center. This cathedral by its architectural beauty and purity will stand as a symbol of the spiritual life of the people."

The completed cathedral will be in the form of a cross, with a central tower 262 ft. high and two towers flanking the western entrance, each 195 ft. high. The seating capacity will be 7,500 and the standing capacity 27,000 people. Besides this great central church the project includes thirty auxiliary buildings, to be devoted to religious, educational, and charitable purposes. Some of these are already completed. That part of the central church already finished contains the tombs of Woodrow Wilson, Admiral Dewey, Bishop Satterlee, and other great Americans.

General Pershing accepted the Chairmanship of the National Committee to raise the balance of $30,000,000 needed to complete the project. The immediate program is to raise $6,800,000, in addition to the $6,000,000 already obtained. Characteristically, the General ascertained every detail before accepting the post and then set actively to work to accomplish the desired end. When Bishop Freeman returned from his conference with the General he was delighted. He told his associates that in General Pershing they had no figurehead, a great man willing to lend his name but unwilling to work; that instead they had a real leader.

One of the General's first acts was to give a large dinner to start the financial ball rolling. The committee did not pay for the dinner; General Pershing did. He never hesitates to reach into his own pocket to further matters in which he is interested. His associates on the Battle Monuments Commission will tell how he is always paying expenses that under the law are legitimate charges against the funds of that commission. How well he started the ball rolling is shown by the fact that as a result of that dinner nearly $1,000,000 has been received. The whole staff of the project is ready with incident after incident that they enthusiastically recount to show that the Bishop was right; the General is an active leader.

General Pershing is always ready to do anything to help veterans and veteran organizations. The care and comfort of the sick and wounded still in hospitals throughout the country gets his first and most arduous attention. The majority of his trips besides those required by his duties as Official and Active Chairman of the Battle Monuments Commission are due to requests for his presence at various veteran meetings. He is proud of the after-war record made by the veterans as well as their war record. He looks forward to their growing influence in the affairs of the country and believes it will be highly beneficial. He frequently repeats what he said as he sailed for Europe with the Legion last year on its pilgrimage to France:

"After the war there were many who feared the results of turning loose on the country our millions of discharged soldiers. Such timid souls failed to appreciate that these men had given a good account of themselves in the test of battle, and that they were returning to the homes they had fought to preserve. What happened was that our veterans at once returned to the ways of peace. They took up their several tasks on the farm, in factory and mine, in office and counting house, and to-day, as law-abiding citizens, they are rightly regarded as the bulwark of the nation.

"As the decades go by the Legion will continue to grow, and its influence, binding all sections together in common sympathy, will become constantly more helpful in directing public affairs."

General Pershing is the Chairman of the American Battle Monuments Commission. This commission was created by Act of Congress approved March 3, 1923. Its eight members are appointed by and serve at the pleasure of the President. They serve without compensation except for actual expenses in connection with work of the commission.

The principal duties of the commission are to "prepare plans and estimates for the erection of suitable memorials to mark and commemorate the services of the American forces in Europe and erect memorials therein at such places as the commission shall determine, including works of architecture and art in the American cemeteries in Europe," to "control as to materials and design, provide regulations for, and supervise the erection of, all memorial monuments and buildings in the American cemeteries in Europe," to "coöperate with American citizens, states, municipalities, or associations desiring to erect war memorials in such manner as may be determined by the commission." Recently, in addition, the completion of the Unknown Soldier's grave and memorial in Arlington National Cemetery has been put under control of the commission.

The commission is not under the jurisdiction of the War Department, but is an independent agency of the government, responsible directly to the President and reporting to him. The principal work of the commission thus falls in two general classes: the construction of the cemeteries in which are buried the war dead, and the erection of memorials to commemorate the battle service of the American Expeditionary Force.

To this work, those who are associated with him will tell you, General Pershing devotes the greater part of this time. He is not satisfied with general supervision. He personally is interested in and checks up on every detail, be it financial, historical, landscape gardening, architectural, or the necessary negotiations with a foreign government.

His periodic trips to Europe are for one or more of these purposes. He has inspected the cemeteries and war monuments of the other countries and talked to the officials in charge of this work. He has again and again gone over all the ground fought on by our troops to determine the most appropriate locations. He has personally participated in the discussion with the American Fine Arts Commission, whose approval must be had on proposed designs. He has gone out of his way to get the approval of the French Fine Arts Commission for the monuments to be erected in France.

When in Washington, where he is for the greater part of the year, he puts in a full day's work in his office in the State, War and Navy Building, frequently staying down till 6 or 7 P.M. Last summer, papers concerning this work were taken to him practically daily at his Blue Ridge home, and frequently, despite the heat, he motored into Washington early in the morning and spent the day at his desk.

He wants and insists on getting the maximum number of facts and opinions from competent sources before coming to a decision. As an example: the question of what type of headstone should be used for the war graves was given the greatest consideration. Some favored solid headstones; others, crosses for Christians and the Star of David for Jews. General Pershing had wooden models made of the different types and supervised the work of setting them out in various arrangements on the parade ground at Washington Barracks. The cross and star in marble were finally decided upon. The work of replacing the wooden crosses with marble markers is now more than half done.

Another example of the General's interest in every detail was that of cemetery hedges. He examined any number of hedges without finding a type that suited him. Finally, one day while on a motor trip, he passed a private house with a boxwood hedge of exactly the type he wanted. He immediately stopped and got all the details. This type was then adopted.

He has in his office in Washington large-size models of the proposed principal battle monuments. He is always examining them. There is nothing he likes better than to discuss their different points with visitors. He welcomes the opinions of the veterans who fought on these fields as eagerly as those of architects and others who are qualified to speak from a purely professional point of view. On various occasions he has taken the architects to the proposed sites of monuments to go over on the ground various changes that have come up as a result of such discussion. Mr. Swartwout, the architect of the chapel in the Brookwood Cemetery in England and the Montsec Monument in the Saint Mihiel Salient, says: "The General's interest is constant, enthusiastic, and beneficial, it extends to every detail, there is no doubt the project, as much as it interests his head, is closer to his heart."

During the World War, 78,734 members of the American Expeditionary Force lost their lives. At the request of relatives, 128 were left buried on the fields where they fell, and 46,889 were sent to their homes or a National Cemetery on American soil. One cemetery in England, one in Belgium, and six in France, are the last resting place of 30,592. The bodies not yet recovered number 1,125.

At the time of the armistice the American dead were scattered in 2,400 burial places. Shortly after, their removal to their present resting places was planned and started. The year 1922 saw this completed. General Pershing took a personal interest in this work. Convenience of transportation was not allowed to govern. Brookwood, England, contains the few hundred Americans who died in Britain or in the waters nearby. Suresnes under the frowning ramparts of Fort Valerien just outside of Paris has most of the graves of men who died of wounds in hospitals in Paris. All other cemeteries are on ground captured by the American troops. The dead buried in them either fell on this ground or in combat in the general region of which the cemetery is the center. By insisting on this rule General Pershing gave the soldier burial on the battlefield on which he fought, with the exception of those killed in minor engagements. Incidentally, this has resulted in the cemeteries varying in size roughly in proportion to the importance of the battle.

Each headstone has inscribed on it, at the time the stone is cut, the full name of the soldier, his rank, regiment, division, state from which he came, and date of his death. If he had won the Medal of Honor, the Distinguished Service Cross, or the Distinguished Service Medal, the initials of the decoration or decorations received are also cut in the stone. The gravestones of the unknown dead are inscribed: "Here Rests in Honored Glory an American Soldier Known but to God."

One of the points on which General Pershing has been particularly insistent is that besides rest rooms in each cemetery there must be a chapel into which relatives can go for prayer and religious consolation. As a consequence, in each cemetery besides handsome rest houses there are being erected or there soon will be erected from designs and plans already approved beautiful stone chapels. Each is designed to fit its scenic background and the other conditions peculiar to the cemetery in question.

Our Civil War battlefields have been marked haphazardly with monuments. Some units have had the energy and means to erect more and larger monuments than others that performed the same service. Some states have shown more interest in marking where their troops fought than have others. Thus, there is an absence of proportion that frequently causes criticism. As a consequence, General Pershing and the commission made up their minds from the beginning that the American monuments in Europe would all be part of a coördinated scheme, each part of which bore the same relation to the other parts as did the combat it commemorates. Following out this idea, the commission does not approve plans for other memorials proposed by any American or group of Americans unless they are for a bridge, fountain, public building, or some other construction useful to the inhabitants of the region as a whole. Of course, it in no way interferes when the French Government sees fit to accept from an American citizen a memorial such as that erected over the "trench of the bayonets" at Verdun in honor of the brave French infantrymen so suddenly overwhelmed and buried in their trench, by a salvo of German shells, that they remained upright, the fixed bayonets of their rifles sticking up through the earth that covers them. Also, there is nothing but cordial agreement when Americans whose division served in a foreign unit wish to do their share in contributing toward a monument such as the one erected at Navarin Farm in the Champagne to General Gouraud's Fourth French Army.

The same general principle is being followed for the Navy memorials. There will be two principal ones. One in England will commemorate the aid given the British Navy in suppressing the German submarines. One in Brest, France—the greatest port of debarkation for American troops—will commemorate the work of the Navy in convoying the A. E. F. to France. [Owing to our lack of merchant marine, only 43.75 per cent. of our troops were carried in U. S. Navy Transports, the balance using leased foreign

THE PROPOSED SAINT–MIHIEL BATTLE MONUMENT OF MONTSEC
It will mark the second great step in America's aid to the Allies, and is a memorial to the exploits of the first American army to fight as a unit on French soil. It was designed by Egerton Swartwout.

ships, mostly British. Our Navy furnished the escort that took 82.75 per cent. safely through the dangerous submarine zone. The balance were escorted by the French and British.]

The three small Navy memorials will be placed at Gibraltar, Corfu in Greece, and Punta Delgada in the Azores Islands, to commemorate the anti-submarine work by the Navy units based on these points.

The combat service of the Army may be divided into three classes. The first consists of minor actions when undergoing training in quiet sectors or when having taken one over to relieve a French or British Division. The second consists of the engagement in a major combat of one or more divisions borrowed by the French or British for service in some attack of theirs. The third consists of the decisive combats engaged in by considerable bodies of American troops.

The first two will be commemorated by five small monuments. One will be at Blanc Mont Ridge, in memory of the services of the 2nd, 36th, 42nd, and 93rd Infantry Divisions with General Gouraud's Fourth French Army. The French monument to this Army that already stands on the site of Navarin Farm includes these four divisions in the long list of French Divisions carved on its sides. One near Bony over the St. Quentin Canal Tunnel, which locality the veterans of the 27th and 30th Divisions will long remember, will commemorate the services of the American troops that served in combat with the British Army in France. The first American independent divisional operation will be marked for posterity by a monument to the 1st Division at Cantigny. A small monument will be erected between Ypres and Mount Kemmel to the services in that region of the 27th and 30th Divisions with the British.

The combats of the 37th and 91st Divisions in Belgium will be commemorated by a monument in Audenarde—that town that has seen so much blood spilled in combat. Spanish, Flemish, French, British and German struggling around it is an old story. This war added a new nationality —American.

The details of commemorating the service in which most of our divisions participated and shed their first blood in the long trench line from Port-a-Mousson to the Swiss border have not yet been decided upon.

Other small memorials are one in Tours

for the Service of Supply, one in Rome to commemorate the services of American troops with the Italian Army and also those of the Navy in the Mediterranean; and two tablets: one on the General Headquarters of the A. E. F. in Chaumont and one on the Headquarters of the First American Army at Souilly.

The three principal monuments will commemorate the three great steps in battle of America's reënforcement to the Allies. Each will be placed in a position dominating the battlefield upon which American troops by the successful attacks that they made, paying the blood sacrifice demanded in dead and wounded, proved the decisive value of this reënforcement.

In talking to the General it is easy to see that, while these monuments are symbolical to him of the splendid fortitude and courage of the individual American soldier in battle, they also express the spirit of the country that so resolutely, determinedly, and unitedly overcame the handicap of its unpreparedness and, translating its tremendous power in potential resources of men and material into actual fighting power, showed beyond dispute its intention to use its full might on the battlefield. Unfortunately, words on paper or listening to one of the General's set speeches can never convey the enthusiasm, the energy, and the determination that he displays when speaking without preparation upon a subject about which he feels deeply. Those who were with him at such moments in France or in Mexico or the Philippines know that back of the outwardly calm Pershing, whom the public is inclined to believe cold, is a passionate nature of great depths of feeling.

It was the real Pershing, who at his summer home on top of the Blue Ridge overlooking the Shenandoah Valley, famous because of the Civil War campaigns fought in it, who finished the last conversation I had with him on our battle monuments in France by summing up the symbolism of the three principal monuments: one near Château-Thierry for the Second Battle of the Marne, that for the Saint-Mihiel Salient Battle on Montsec, and the third for the Battle of the Argonne. Of the first he said: "The monument near Château-Thierry will stand on the high hill to the west, which dominates the town and the surrounding country. It will commemorate the services of three hundred thousand American soldiers fresh from home who, fighting side by side with their French comrades, checked the powerful German advance in the Marne Salient, and later turned the tide of the war and drove the enemy back beyond the Vesle River."

The high hill is Hill 204. It is the end of the most southwesterly spur of the Etrepilly Plateau. Some of the 3rd Regular and 28th Pennsylvania Divisions will remember their struggles up its southern slope in June and July, 1918. The road to Paris from Château-Thierry runs west from that town, climbs almost immediately up the ravine between Hill 204 and the main part of the Etrepilly Plateau, then across the saddle at the top and down the other side, west toward Paris. A short distance beyond, north of the road and at the foot of the western slope of the plateau, is Belleau Wood now named the "Wood of the Brigade of U. S. Marines." Veterans of the Regulars of the Army and Marine Corps who served in the Second Division in June, 1918, will remember every detail of the country from Hill 204 northwest to include Belleau Wood and beyond as the scene of their first heavy fighting.

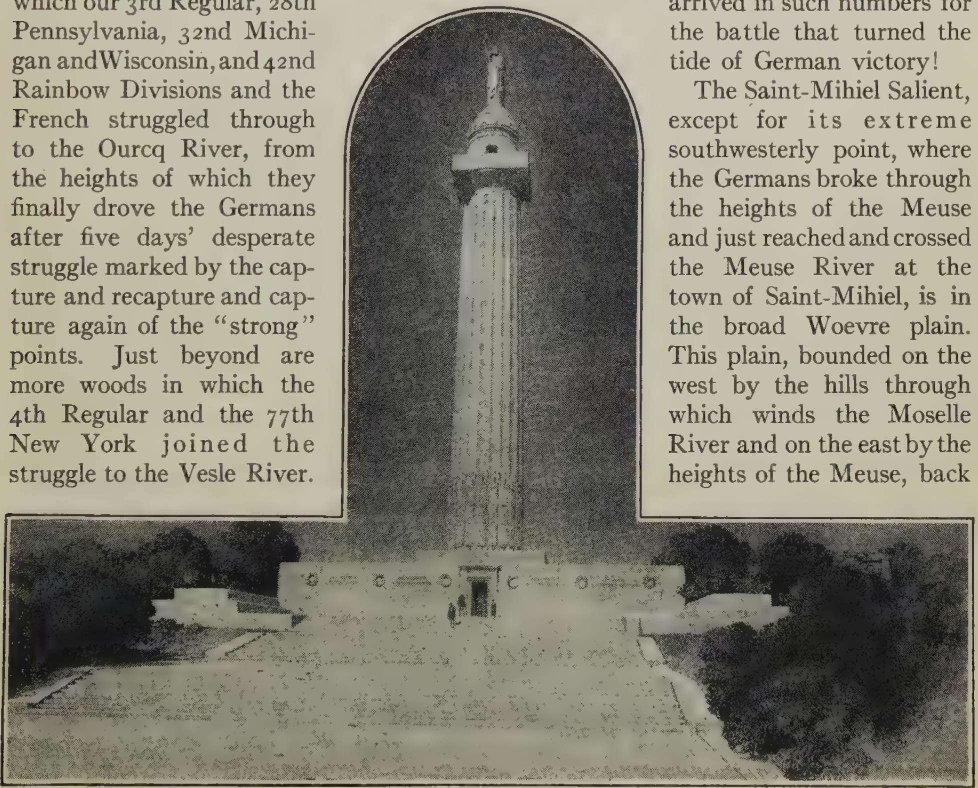
In their great assault of May, 1918, the Germans drove from the Chemin-des-Dames south across the Aisne and Vesle rivers to the Marne, whose waters they had last seen as they retreated north across them after their defeat during the First Battle of the Marne, September, 1914.

The Etrepilly Plateau is at the southwest corner of the salient established by this drive. The 26th New England Division will long remember its bloody struggle up its western face, beginning July 18, 1918. Its southern base is washed by the Marne. Historic Château-Thierry nestles in one of the hollows on the north bank of that river and struggles up the steep southern side of the plateau. Just south of the Marne is the ground hallowed by the dead of our 3rd Regular Division, which first in May and again in July stopped the Germans from advancing south of that river. Just to its east is the scene of the 28th Division's first full-fledged battle experience when, intermingled with French units, it faced the German July attack.

The road from Château-Thierry to Soissons, twenty-five miles to the north, the first main objective of Foch's counter-attack begun July 18th, winds up the steep southern bank of this plateau and crosses its top. To its left along these twenty-five miles are the fields and groves of trees, the stone farms and villages that our 26th New England, 4th, 2nd, and 1st Regular Divisions with their French comrades paid so freely with their blood to wrest from the Germans. To its right is the more thickly wooded country through which our 3rd Regular, 28th Pennsylvania, 32nd Michigan and Wisconsin, and 42nd Rainbow Divisions and the French struggled through to the Ourcq River, from the heights of which they finally drove the Germans after five days' desperate struggle marked by the capture and recapture and capture again of the "strong" points. Just beyond are more woods in which the 4th Regular and the 77th New York joined the struggle to the Vesle River.

When its banks were reached the Marne Salient was smashed flat. Much more than that, Foch, by the counter-attack that he began July 18th and continued, had taken the initiative from the Germans for good. For this glorious finish to the Second Battle of the Marne, which was begun by one of the Hindenburg-Ludendorf tremendous attacks with every hope of victory, General Foch was made a Marshal of France and General Pershing, whose troops had taken such a large and successful part, was given the highest decoration in the power of the French Government to bestow. From the top of Hill 204 the German observers saw the American troops on both sides below. From it they watched for the additional American troops they had been told could not arrive. The Etrepilly Plateau is the corner stone of the Marne Salient. Hill 204 is its watchtower. What more fitting spot for a memorial to the Americans who arrived in such numbers for the battle that turned the tide of German victory!

The Saint-Mihiel Salient, except for its extreme southwesterly point, where the Germans broke through the heights of the Meuse and just reached and crossed the Meuse River at the town of Saint-Mihiel, is in the broad Woevre plain. This plain, bounded on the west by the hills through which winds the Moselle River and on the east by the heights of the Meuse, back



THE PROPOSED ARGONNE MEMORIAL AT MONTFAUCON
It will commemorate America's greatest battle—the Argonne—which endangered the German Army and hastened the demand for an armistice. It was designed by John Russell Pope.

of which runs the Meuse River, has been the scene of mortal combat since the Empire of Charlemagne split into the two parts that have become modern France and modern Germany. Opposite each other were the German fortress of Metz on the Moselle and the French fortress of Verdun on the Meuse.

From this plain the Germans in 1916 made their determined and bloody assaults against the eastern defenses of Verdun. Here in the first year of the war the Germans tried to break through to the right rear, thus outflanking the long French line from Verdun across the Argonne and the Champagne to north of Paris. They drove a deep salient but could get no farther. They occupied a detached mountain toward its point called Montsec; but let General Pershing tell the story as he summarized it at his Blue Ridge home:

"For four years Montsec in the hands of the Germans gave them by its height a decided advantage in controlling the Saint-Mihiel Salient, which they had held against all attempts to dislodge them. To crush this salient and capture Montsec was the first mission of the American Army. The memorial on Montsec will commemorate this great service, and its rugged architectural strength and power will suggest the vigor and force of our troops who so worthily represented the nation in this first independent offensive of the American Army."

During the Argonne battle the line across the Woevre from in front of Verdun to Pont-a-Mousson on the Moselle was occupied by American troops. Early in October, these troops were formed into the Second American Army. They advanced it somewhat in preparation for an offensive that they, plus other American divisions operating east of the Moselle, most of which were en route when the armistice came, were to make on Metz.

The Argonne lies between the Woevre on the east and the Champagne on the west. Its eastern boundary is the Meuse River, its western the western edge of the forest that bears the same name but occupies only a long north and south strip on the Champagne border of the district. The line from which our troops jumped off in their attack is that of the western defenses of Verdun, so gallantly and bloodily held by the French against the German assaults in 1916. It runs from east to west across the southern end of the Argonne. The northern defenses of Verdun overlook the Argonne. For miles no matter where the spectator goes when he faces the Argonne there is one natural feature that strikes his eye. Again let General Pershing, eyes alight, speaking with eager emphasis, tell his story:

"The dominating feature of the battlefield of the Meuse-Argonne is Montfaucon, from the top of which the scenes of four years of warfare stretch for miles to the south. Crowning the hill are the ruins of the town of Montfaucon and the shattered towers of its church, many times destroyed by war during the thousand years of its history. From this position of vantage the Germans could follow the storming lines of our divisions as they advanced toward this stronghold in the final great battle of the war. Out of the ruins that remain on Montfaucon will rise our memorial shaft, marking the decisive part played by America's Army on those hard-fought fields to end the greatest war in history."

On the Virginia bank of the Potomac just across from the Lincoln Memorial in Washington and now connected with it by the Memorial Bridge is Arlington National Cemetery. No amount of wealth or position can gain entrance. Service in the uniform of the country alone opens wide the gateway, brings the guard of honor, the final salute, and the flag of the cemetery to half mast. Here in the midst of 37,000 dead from all our wars sleeps our Unknown Soldier of the World War. Nor far off is the monument to the 2,111 unknown Union dead of the Civil War. The completion of the memorial above the Unknown Soldier's grave is to General Pershing the outward and visible sign in this country of the inner and invisible spirit that, by making this nation what it is, made possible an army actuated by the high ideals of the American Expeditionary Force.

The Story of the Zeppelins

Some of Their Feats in War and Peace

HOWARD MINGOS

CO-AUTHOR OF "THE ZEPPELINS"

THE "GRAF ZEPPELIN"
A drawing by Oscar Cesare.

WHEN Count Zeppelin launched the first rigid airship twenty-eight years ago he presented to the world the strangest craft yet devised, a monstrous, gas-filled creature of the air with possibilities as limitless as the space it was designed to traverse. Since then about one hundred and fifty airships have ventured forth to meet with amazing adventures, often weird and sometimes tragic, far more extraordinary, as a rule, than any vagary of the sea. The big ships now attracting universal attention by their long flights or promise of still more striking performances in the near future represent a fairly mature science, which has grown out of vast experience.

In many ways the airship can justly claim kinship with surface vessels. Life on board an aërial leviathan is much like that on an ocean liner. The airship is manned by a crew of a score or more, who live like sailors, work at their stations throughout the ship, in the gondolas, control cars, or hull. They repair engines during flight and keep everything shipshape from nose to tail. Their craft is maintained aloft by buoyant gas and therefore they cruise. They do not fly. They do not carry parachutes. They are aërial sailors with a sailor's duties. Their traditions are inherited from the sea.

At the start of the war the Zeppelins were not so large as the types that were to astonish the Allies some months later. They grew by easy stages. Every month brought improvements. The larger the ship the more weight it could carry—in fuel, bombs, or stronger construction. That is why the new ships under way to-day are two or three times the size of the biggest craft seen during the conflict. Yet the Germans employed the ships they found available, and Zeppelin crews often set out on missions too difficult for their ships, or encountered weather that a modern rigid could negotiate easily but that proved a serious menace for the older types.

The Germans often were compelled to set out blindly on flights of twenty hours or more, lacking advance weather information. They maintained airship patrols over the North Sea practically every hour of the war, and they encountered conditions that kept the surface craft anchored in port.

Fifteen Zeppelins within one period of twelve months made nearly four hundred long-distance patrol flights and thirty raids on England, losing four ships in action with the enemy. Another fell victim to the weather. The *L-4* left her base one winter night and cruised northward as far as the coast of Norway to check reports that the British fleet was operating in those waters. A gale confronted her as she turned back and rain froze into ice as quickly as it struck the ship. The thermometer dropped steadily and the half-frozen crew saw the rain change to snow while the *L-4* continued beating into the wind.

The men spent that day with nothing below them but mountainous seas. The night dragged endlessly while they nursed their engines and checked the course. Progress became so slow that the fuel tanks would have been empty long before they could reach Germany; so they struck out for Denmark. Daylight brought with it no slackening of the wind, but it permitted them to see the Danish coast as they sped over it. As the motors commenced stopping through lack of fuel, the commander brought his ship close to the surface. Knowing that he could not hold it in that wind, he ordered all hands to jump. Nearly all of the crew went overboard in a hurry, to safety. Two who delayed a moment had to jump when the ship was rearing again. They were badly hurt. As the *L-4* disappeared in the blizzard the roll was called. Four men failed to respond. They were missing forever.

The Germans could not get word of prevailing weather conditions over enemy land, so they had to resort to guesswork in planning the details of a raid where so much depended upon favorable winds and visibility. This proved treacherous, especially late in the war, when the British had perfected their aircraft defense and the Zeppelins had to cruise three and sometimes four miles high to avoid airplane attacks.

Eleven airships raided England on a midnight in October, 1917. As soon as they could drop their bombs they sped homeward, urged to more than usual haste by signs of a northern gale. Five of the ships were late starting back, or their commanders were inexperienced with storms at those heights.

They turned eastward, thinking their compasses would direct them across the North Sea to Germany, but they had not considered the force of the wind, which raced madly at eighty miles an hour. The five Zeppelins were gradually blown southward. The air was freezing cold. The warcraft contained no comforts, and the crews suffered horribly. Daylight found them far back of the battle front in France. One of the commanders managed to send his ship up to 24,000 ft., and all hands labored mightily to keep it there, casting out even their tooth brushes and razors, and finally their fur-lined jackets, to lighten the ship so that it would stay high enough to elude the French. The crew was one of the ablest in the service; and for that reason they managed to slip back into Germany unobserved. The others did not return.

The *L-40* was shot down over the lines. The *L-45* and *L-49* cruised about until the fuel gauges warned the engineers that the motors would soon be idle, in which event the big ships could not be controlled. They were praying for the wind to shift and blow them eastward. Zeppelins had been operated like free balloons before when the engines froze in high altitudes or those still in an experimental stage failed to function. But the wind persisted from the north with the same deadly velocity. The two ships were forced to come down. The men of the *L-45* came to earth where there were no soldiers at the moment and before the French arrived on the scene they managed to burn their ship.

Those on *L-49* also landed, but their ship was so depleted of its gas supply that they could not burn it. Contrary to some opinions hydrogen does not explode: it burns, but when it is mixed with a certain quantity of air burning is impossible. A party of French soldiers came up before

THE "LZ–120" MADE A 101–HOUR FLIGHT IN 1917

the Germans could destroy their books. Some time later the technical plans of that Zeppelin were distributed to all the Allied governments, and from them our *Shenandoah* and some of the British airships were fashioned, with alterations.

In the afternoon only one Zeppelin remained over France—the *L-50*, and she could not get down. She had sped past Paris and then swerved eastward toward the French Alps, where her captain, Schwonder, hoped to dodge into Switzerland. But she was cruising at great heights; some of the crew had frozen feet and hands. All of them were using oxygen to keep themselves alive in the rare atmosphere. They had been in the air more than twenty-four hours, part of the time on a nerve-wracking raid and subjected to anti-aircraft shells—"flaming onions" that would fire their ship if hit—and most of the time from three to four miles above the earth.

Gradually the oxygen supply became exhausted, first in one of the wing gondolas, then in another. The mechanics collapsed. Their engines rattled on unattended. No help came to them. None could learn whether they were unconscious or dead, for the officers and men in the control car were spent and unable to climb into the hull. They had economized on oxygen, taking turns at the wheels, which barely moved under their fast-waning strength.

One officer remembered that a reserve supply of oxygen lay in the hull corridor near the bow. He tried to get it but collapsed at the foot of the ladder. Finally the entire crew lay helpless, unable even to look out into the frozen world through which war's fortune was taking them. Now and again they passed over a battery, which would take potshots at the ship; but she continued aimlessly, at speeds set by her commander six hours before, and repeatedly lunged earthward and then zoomed up in the grip of the relentless north wind.

A mountain peak loomed in front of the ship, but she was sightless. She went into it like a vessel striking an iceberg. The impact sheared off the control car and rear engine gondola, and the rest of *L-50*, freed of the weight, leaped high above the Alps and remained there, a derelict with four of her crew still aboard. One by one the survivors recovered and crept out of the wreckage. As they struggled down the mountain they could see the *L-50* drifting, a mere speck in the sky. No trace of her was found. She probably collapsed into the Mediterranean.

That sea claimed another airship years after the war—the French *Dixmude*, which had been the German *L-72* at the time of the armistice. Zeppelin officers in March, 1919, prepared the *L-72* for a flight to the United States to demonstrate the commercial possibilities of lighter-than-air craft. The ship was about the size of the present *Los Angeles*, though not so heavy, for she was a war craft built for the Navy. A few days before the Germans were to set out on the first Atlantic flight, the Inter-Allied Control Commission heard of their plans and forbade them to take the ship off the ground. They could not understand why until some weeks later when the British *R-34* cruised across the Atlantic, the first rigid airship to reach the Western Hemisphere. When the Zeppelins were apportioned among the Allies, France received, among others, the *L-72*.

As the *Dixmude* the Zeppelin made several notable flights over south France and the Mediterranean. The French became enthusiastic. High officials clamored for flights. One bright morning, shortly before Christmas, 1923, fifty officers and men climbed aboard the ship and started on a junketing trip over northern Africa, supremely confident that brief experience with such ships warranted extra long and therefore unduly hazardous flights, without adequate weather reports, wireless direction-finding methods, and other safeguards that the Germans maintained for the operations of their airships.

The *Dixmude* was reported at intervals for three days. Her passengers dropped postcards over Bizerte in Tunis and at Gafas and Tozeur. On the fourth day the radio operator of an Italian steamer picked a message out of the air. The *Dixmude* was fighting a violent gale near the Gulf of Qabès. Later he received what he thought were distress signals and estimated that the *Dixmude* was being driven before a hurricane at 125 miles an hour. That was all.

Some days later the body of her captain, young De Grenadan, came out of the sea in the nets of fishermen off Sciacca, Sicily; and then several persons at that point spoke of having seen a very bright light in the sky over the rough channel between Sicily and Tunis. Apparently the *Dixmude* had been wrenched apart, gasoline had caught fire and ignited the hydrogen. The Germans insisted that two years are required to train a crew that can be depended upon to handle an airship safely. With hydrogen gas inflating the cells, the fire menace is always present.

Yet the Germans proved that normal operations may be quite safe. Thousands of flights had been made before the war and in the two or three cases of fire the cause was traced directly to carelessness. During the war the Zeppelins that burned were either shot down by the enemy using incendiary shells or, as in one or two instances, destroyed by members of the crew tinkering with the bomb fuses.

They did not fear ordinary gunfire—shrapnel—so much. Sometimes a raiding Zeppelin would stagger home with as many as three hundred holes in her, the worn faces of the crew plain evidence of the strain under which they had labored as human targets. To avoid striking sparks aboard ship their clothing was without buttons and they wore felt-soled boots while climbing about the interior. Mostly they dreaded being brought down in enemy territory after a raid, for raiders were most unpopular. The raids were begun to stimulate the morale of the airship forces and relieve the monotony of the North Sea patrols. Raiding was never monotonous.

The *Z-10* cruised through fifteen miles of flying shrapnel barrages and succeeded in striking Paris one night in 1915. She sped twice across the city at a height of a mile and a half and with a sister ship planted explosives that demolished electric light plants, warehouses, and scores of smaller buildings. Nothing touched the *Z-10* until she tried to get back over the lines. Near the front at Noyen a lucky battery got the exact range and two whole salvos struck the raider squarely, solid shells passing clear through the hull. Countless pieces of shrapnel ripped holes in the gas cells.

While some of the crew inspected the damage others threw out the machine guns, oil tank and gasoline drums, tools, spare parts. The *Z-10* was then past the lines and being escorted by a squadron of airplanes in case French aviators should attempt to follow. She continued to sag, however, and the officers and men cast overboard their fur coats and finally their boots. By excellent navigation they made an emergency landing in an open field.

The airship men pitted their strength, or luck, against the submarine. The *L-31* was cruising on patrol off the Dogger Bank when far off in the distance the captain, Mathy, spotted a small object. Ever alert, the crew obeyed orders instantly, and the Zeppelin plunged into a cloudbank, toward the suspect. Five miles nearer she emerged and the Germans saw not one but four British submarines. Back into the clouds slipped the *L-31*. When she again came out one of the subs lay directly below.

Her lookout espied the airship and in an instant her deck gun was spitting viciously. But the *L-31* hovered still. Mathy's bombing officer sent one egg downward, to get the range. It fell 400 ft. short. Another bomb, 200 ft. short. The third was within 100 ft. All four submarines were shooting at the Zeppelin when the fourth bomb slipped out of her racks. It landed just forward of the conning tower and the explosion rocked the *L-31*. She stood by until the pall of black smoke had drifted aside. The sub lay stern up, her screws still turning, and a moment later she had taken her last dive.

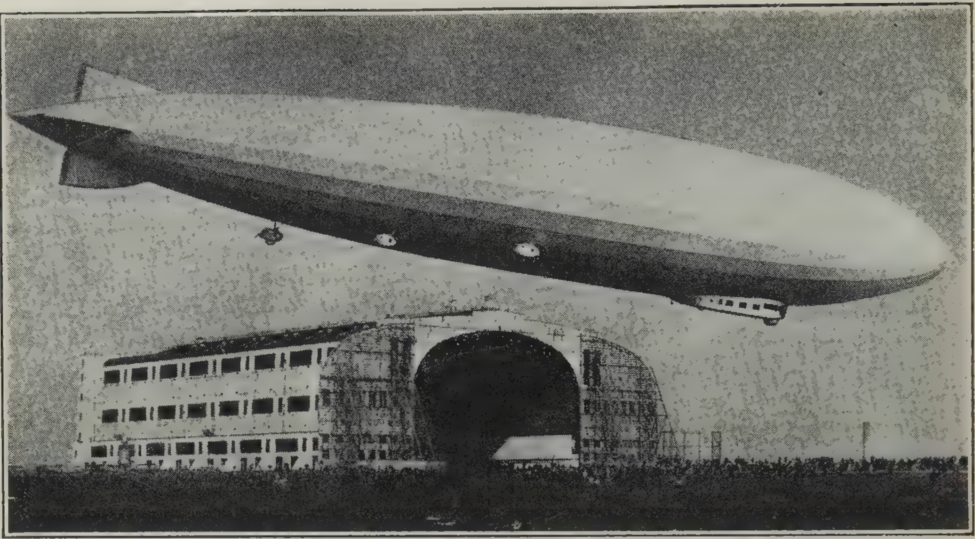
The Zeppelin dodged back into the clouds to get over another submarine. When she emerged the three had disappeared. Then her riggers reported two gas cells empty in the tail. Oil tanks, guns, bombs, clothing were moved forward as the *L-31* commenced to settle stern first. When that end had been lightened she was steered homeward. In her hangar the crew made a careful inspection. Two shells had punctured a gas cell, and another the tail—but they repaired the damage in six hours and set out to finish their patrol.

Throughout the war the British were the keenest observers of Zeppelin activities and they became advocates of lighter-than-air when an official board reported that the German monopoly had wrought "grievous harm." One of the episodes on which they based that conclusion was the manner in which airships had performed as scouts at the Battle of Jutland. A Zeppelin had even fought part of the British fleet the morning after the main battle.

At five o'clock in the morning a Zeppelin sighted smoke clouds and ten minutes later came upon twelve battle cruisers and several smaller ships—like mother ducks out with their young—heading toward Scotland at high speed. After this information had been wirelessed to the German Admiral, the Zeppelin turned eastward, still keeping the enemy in sight. Off in the opposite direction her commander's glasses revealed six British dreadnaughts and auxiliaries.

The two lines soon came together and in the early morning haze the lookouts heard the engines overhead. The Germans had been waiting for the mist to clear, lurking only a mile above and not caring to go higher for fear of losing sight of the enemy. The surface craft lost no time. Their turrets swung round, the muzzles of their big guns were pointed skyward. The Zeppelin men were probably the only ones ever to stand within sight of a fleet while it fired its big guns at them. They stood there for an hour. Even when banks of fog obliterated the vessels they could see the great flashes of flame as whole salvos were fired.

The Zeppelin was jolted like a ship on the rocks by the concussion of the shrapnel bursts on all sides. Sixty minutes seemed weeks to her crew, and they were happy when the captain, finding the cruisers directly under him, sent down his biggest



THE "ZR-3" FROM GERMANY ARRIVING AT LAKEHURST, NEW JERSEY
The landing of the *ZR-3*, now the *Los Angeles*, on October 15, 1924. Note the small army necessary to man the landing ropes.

bombs. But the mist prevented range finding, and the aimless fire from so many vessels with their guns sweeping the sky overhead was tempting fate too much. He dodged back into a thick bank of fog. When he nosed out on the other side the British were out of sight. Hours of search failed to locate them in the mist and the Zeppelin was ordered back to her base.

The Zeppelins maintained their North Sea patrol practically every hour of the war, and much of their important work lay in locating and charting enemy mine fields and in working with the surface craft set to destroy the mines. Often a Zeppelin would be landed on the surface to take aboard an officer from the mine-sweepers. He would be taken slowly over an entire area that he might plan just how to destroy the menace.

On other occasions Zeppelins swooped down upon merchant ships. An airship would materialize out of an innocent cloud, come down and hover near the vessel while all hands were ordered into the small boats. Of course the Zeppelin crew always risked the vessel's guns, but they managed to persuade the sailors that resistance was hopeless. They would then drop lightly to the surface, have the skipper hand them his ship's papers, and again take to the air, after the mild formality of dropping bombs that sent the merchantman to the bottom. At times conditions would be reversed. A Zeppelin, shrapnel-peppered and leaking gas after a raid over England, would sink to the surface like some tired monster out of breath, and there wallow about with her men wet, cold, and helplessly clinging to her framework until she sank, or an enemy vessel came up to make them prisoners.

The British were designing rigid airships when the enemy type fell in their midst. Then they discarded their own plans and copied it. The Zeppelin *L-33* under Boeker sprang at London shortly after twelve o'clock one September night in 1916. Hundreds of guns belched flame and shrapnel as the raider appeared over the East End and swerved northward parallel to the Thames. Searchlights by the score transformed the night into a carnival glare. The shrapnel bursts were so thick about them that the Zeppelin men could barely make out the city. Their surroundings became as light as day when the incendiary shells and fire rockets formed a worse menace. Boeker and his men could not have counted the "flaming onions" that sped up past their ship.

But they were dropping their own fire

bombs by then, and with the speed at which they were crossing London navigation required all their attention. The elaborate chart in the control car showed the main targets, and when she had arrived over the factory district the *L-33* dropped her remaining bombs, then veered off, leaving a yellow, fire-streaked trail across the city.

Barely had she left the metropolis when from all quarters of the hull came reports of punctured gas cells leaking like sieves. Boeker steered for neutral Holland and a forced landing. But the Zeppelin was sinking too rapidly. He saw that he could not make it and turned back to England. A few miles south of Colchester the *L-33* dropped into an open field. Out leaped her crew. They ran the entire length of the ship trying to set her afire, but she would not burn. When the enemy arrived all important parts remained undamaged.

The British made two copies of the *L-33.* They were the *R-33* and *R-34*, completed in 1918. Meanwhile, other Zeppelins fell into British hands. In August, 1918, they started work on two giant rigids, *R-37* and *R-38*, modeled from the captured Zeppelins but made longer—a total length of about 700 ft. each. The designers apparently thought that length required no variation in construction methods, for the framework of the big ships was no stronger than that of the smaller craft; and, too, parts of the framework of the Zeppelins had been salvaged and put into the new skeletons.

Such a makeshift craft was the *R-38* when, in the summer of 1921, she went up for trial flights near Hull. The government had sold her to the United States Navy for $1,000,000. Britain's economy policy did not permit keeping both ships. A contingent of American Naval officers and men had been training with the English personnel, preparatory to delivery of their craft. They were on the trial flights. On the third test members of the crew noted that some of the girders amidships had failed and that the ship was sluggish in being steered. Her control surfaces—rudder and fins—were enlarged. On the afternoon of August 23rd, the *R-38* went up on her final test.

Speeding over the Humber at several thousand feet she was turned this way and that, and finally her rudder was put hard over. Her frame snapped in the middle. The fracture broke the gasoline feed lines leading to the engines. Fire spread quickly to the hydrogen in the fore part. It fell into the river a blazing mass. The aft section floated more slowly to the surface of the water, with survivors; but forty-four British and American airship officers and mechanics had lost their lives.

Soon self-styled experts were raising their voices in condemnation of all airships. The danger of fire, said they, was enhanced because lightning might strike the strongest rigid and burn it. But the Germans knew better. Zeppelins had been struck; the crews detested electric storms, but on the most thrilling flights through lightning they had come home safely.

Confidence that they could take their ship through any kind of weather, as they would a surface vessel, betrayed Commander Zachary Lansdowne and his brother officers of our Navy *Shenandoah* on the night of September 3, 1925, when they headed into a terrific storm over Ohio. They had been trained on warships and their law was to finish a trip once begun.

The *Shenandoah* was bound toward the Middle West. Like a ship at sea she was plying through the night over the Ohio River, lights glowing, mechanics busy with their purring motors, those in the control car picking up occasional landmarks on the surface 1,800 ft. below. Suddenly the big craft hesitated. A blast of wind had smacked her bow like a huge hand pushed up out of the west. The officers, among them a trained meteorologist, peered into the darkness: what were they to expect? They discussed the signs. All hands remained alert. The wind became a series of angry gusts, but the ship maintained an even keel and nosed against it persistently.

Nearly two hours passed. The weather man pointed ahead: even in the night they could see a great menacing bank of black clouds tumbling about their course in sinister fashion. They were soon among them. Rain fell in solid sheets, lashed against the fabric hull with the force of hail. A flash of lightning was followed quickly by others—greenish, snake-like streaks that ripped the murk apart in the midst of ear-splitting thunderclaps.

The sky was now a veritable maelstrom, and the bow of the *Shenandoah* rose up as if raised on the crest of a mighty wave. Those mariners of a new epoch in navigation realized that they were in a line squall, the worst kind of storm. Their ship was rising. Within eight minutes she was up more than half a mile. Orders passed rapidly. A lever was pulled back, and it opened the safety valves at the top of the gas cells to free some of the gas and prevent bursting in high altitudes. The men at the controls set them for a steep dive earthward and the ship responded for the moment, aided by her engines, which were now twirling the propellers at full speed.

The big airship lunged down a sheer half-mile. Ready hands freed the ballast and it slipped out through open hatches in the keel. The wind again picked up the ship and the 675 ft. of metal girders and fabric, with forty-one men distributed here and there throughout the entire length, rose up at a steep angle, like a ball tossed in the air. From the interior of the hull came an ominous cracking noise like breaking match sticks. Several men in the control car, which was swung about 10 ft. under the hull and well forward, heard the warning sounds. Those not busy at the controls climbed up the ladder to investigate. Two were on the ladder when the *Shenandoah* parted amidships.

Two struts had held the control car suspended below the keel. The rear strut snapped off as the framework broke. About 150 ft. of the nose swung free and the control car for a moment was carried with it, dangling at the end of the fore strut. Then it was wrenched off and sent plunging like a stone from a mile high with Commander Lansdowne and twelve others trapped inside. Another officer happened to be where the break in the hull occurred, and he was dropped out, spinning helplessly.

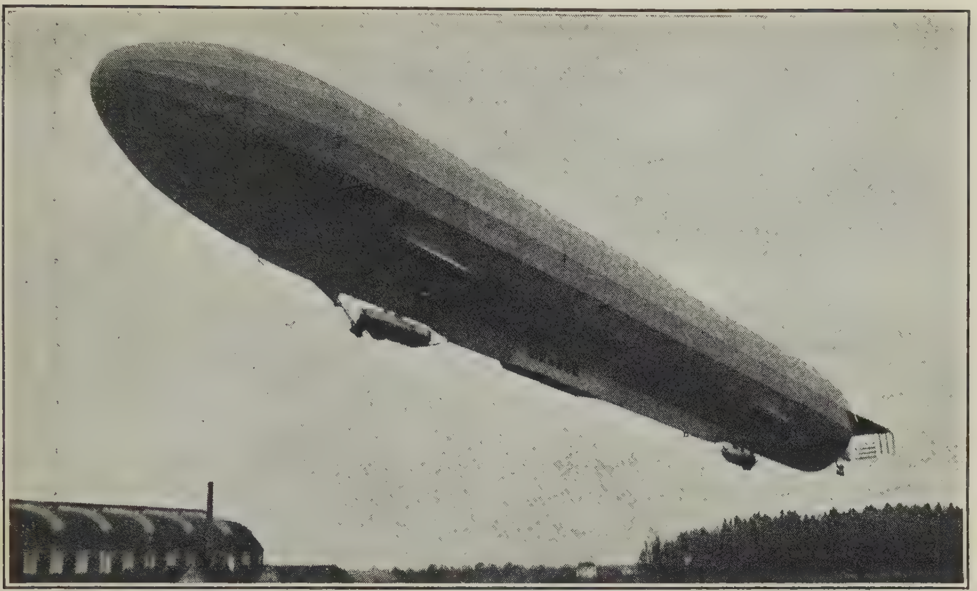
The forward part, relieved of the control car, sprang up hundreds of feet with excess buoyancy. Those inside peered out in the half light of dawn. One man was clinging to the ladder. He was pulled to safety. Another was found with his arms and legs wrapped about a girder that flapped perilously outside. His back was toward his comrades. Their bit of wreckage was now careening wildly on the heels of the wind but they procured a rope and after many attempts got an end of it over their comrade's shoulder: he grabbed it and they pulled him inside.

Directed by Commander C. E. Rosendahl, now captain of the *Los Angeles*, they separated into two parties and crept down the keel toward opposite ends. This steadied the derelict and enabled them to free the gas gradually so they could manœuver as if in a free balloon—on a twelve miles' ride, the last moments of which bumped them against tree-tops, fences, and farm buildings, finally to safety.

Meanwhile, the middle of the ship with two engine gondolas had broken away from the aft section. It dropped straight, but by casting out everything of weight, those aboard broke the force of their fall and were tumbled out on the ground with only minor injuries. The tail piece was the biggest part, about 500 ft. long and tapering from the middle, which was as thick as a five-story building. It fell heavily and landed with a crash nearly a half-mile away, broke into pieces and scattered the occupants on the surface. But the control car claimed all the victims except the officer who had been thrown out amidships.

That accident was attributed, broadly, to pioneering, which was true in the sense that our first rigid airship had come to grief. But there was nothing in that disaster to indicate that airships are inherently unsafe.

Several long flights have been made in the past. In July, 1917, Captain Lehmann and a crew of twenty-seven took their *LZ-120* out of Seerappen on the Baltic Coast and remained up, cruising back and forth over the sea for 101 hours. That was then the longest non-stop flight. It encouraged the German Government to send another Zeppelin on a relief mission to the colonial forces in German East Africa. The *L-59* set out from Jamboli, Bulgaria,



THE "VIKTORIA LUISE"—A PRE-WAR PASSENGER-CARRYING ZEPPELIN
This ship, launched in 1912, helped greatly to popularize German air travel. Demand always exceeded its passenger capacity of twenty-three.

on November 16, 1917, rode through a series of severe electric storms and in temperatures varying from 40° to 70°, cruised down the Valley of the Nile and over the Sudan, where she turned in her tracks and went back to Jamboli without stopping. An official wireless message had recalled her after the German Government received word that the German troops in the colony had been badly defeated.

In many ways that flight was the most remarkable ever made. The *L-59* had been built in about two weeks. She was loaded with 30,600 lbs. of ammunition, rifles, jungle knives, and radio parts, including three tons of medicines. She also carried 25 tons of gasoline and oil, 15 tons of clothing, spare parts, provisions, and a crew of eight—a total load of about 55 tons. And she had made a non-stop flight of 4,230 miles in 95 hours. After her arrival back in Jamboli she still had left enough fuel for 64 hours more in the air.

The British *R-34*, on her flight across the Atlantic in 1919, remained up 108 hours on the westward trip of 3,130 miles, while her return trip with favorable winds required only 75 hours. The *Dixmude* in September, 1923, flew a circular course over the Mediterranean and south France, about 4,500 miles in 118 hours.

Another notable flight by airship was that of the Italian *Norge*, which carried the Amundsen-Ellsworth-Nobile expedition across the Pole from Spitsbergen to Teller, Alaska, in May, 1926. The *Norge* cruised from Spitsbergen to Point Barrow, Alaska, a distance of 2,000 miles, in 46 hours; while the remaining 700 miles to Teller required 25 hours more, during which the *Norge* actually cruised about 1,200 miles before landing.

The adventures of General Nobile and his crew in the *Italia* over the Polar region a few months ago was interpreted in some quarters as shedding a bad light on all airship operations, but that was an injustice. The *Italia*, like her sister ship, the *Norge*, was of the semi-rigid type and differed radically from the rigid Zeppelin both in design and in construction.

The semi-rigid has only a rigid keel or spine on its lower side, while the gas cells above are enclosed in an envelope without any supporting framework. The Zeppelin has a rigid metal skeleton of longitudinal girders holding ring frames between every two gas cells throughout its entire length.

The Germans abandoned the semi-rigid type of airship early in the war. The United States Navy has advocated the exclusive use of rigid ships and is constantly making demonstration flights with the *Los Angeles*, a Zeppelin.

The German Government agreed to give the United States an airship as part of its reparations program. It was built by the Zeppelin works at Friedrichshafen, Germany, and when Dr. Hugo Eckener and his Zeppelin crew brought it over from Germany in October, 1924, they made the 5,000 mile flight in 81 hours. The American Navy named the new ship the *Los Angeles*, and her operation from the hangar at Lakehurst, New Jersey, has been distinguished by many long flights—to Bermuda, Panama, and across country. Last February she cruised from Lakehurst to Panama non-stop, 2,178 miles, in 40 hours.

The *Los Angeles*, however, is a relatively small ship, having only 2,500,000 cu. ft. gas capacity. Her size was limited, not by the Germans, but by the stipulation of the Allied Governments that any ship that Germany might build for the United States must be no larger than the largest wartime naval Zeppelin. So the *Los Angeles* represents a fair experimental craft, giving much promise of what her successors will be if they grow up into ships of six and eight million cu. ft. capacity. The bigger the ship the more weight it can carry, the longer will be its cruising range, and the stauncher its construction.

The Treaty of Locarno removed the restrictions that after the war prevented Germany building big Zeppelins. To-day the *Graf Zeppelin*, the 127th Zeppelin to be built during twenty-eight years, is demonstrating what a fair-sized ship can do. She is 776 ft. long and has a diameter of 100 ft., a gas capacity of 3,750,000 cu. ft., and 5 reversible 530 h.p. Maybach engines. She has a cruising radius of about 12,500 miles at 70 miles an hour, carries 20 passengers and an average crew of 30, and can transport about 10 tons of mail or freight. A feature that is being observed with intense interest is the gaseous fuel—as light as air—consumed by the motors. This eliminates the weight of gasoline tanks and adds proportionately to the pay load capacity. It is carried in gas cells similar to those that hold the buoyant hydrogen and keep the ship aloft.

The Germans have their pre-war record to show that this type of carrier can be popularized for regular scheduled service. Six passenger Zeppelins were operated, for six years prior to the war, carrying about 40,000 passengers between German cities, without an accident in their 1,600 flights. The Zeppelin experts believe that a two days' schedule across the Atlantic can be maintained as safely.

England has her new passenger airship —the *R-100*—now nearing completion. This ship is 709 ft. long, 133 ft. in diameter. She has a gas capacity of 5,000,000 cu. ft. and 6 Rolls-Royce Condor 700 h.p. engines. Her builders point to cabin accommodations for 100 passengers, space for ten tons of mail or freight, quarters for the crew, a dining room and a promenade deck, a smoking room and a lounge—all inside the main hull of the airship. They claim for her a cruising radius of 4,000 miles at a speed of 75 miles an hour. They promise soon to send her across the Atlantic on a demonstration flight, after which, according to present plans, she will be put in regular service between London, Egypt, and India. Later, they plan to establish similar lines to South Africa, Australia, and New Zealand, and Canada and the United States. As this is written an attempt is being made to procure American capital for the transatlantic British line.

Meanwhile, Americans who have followed the development of the rigid airship had much rather see the big craft built here in the United States than anywhere else. For the first time such facilities are being arranged. The United States Navy will have two giant Zeppelin type airships, each about 800 ft. in length and with 6,000,000 cu. ft. gas capacity, as compared with the 5,000,000 cu. ft. of the *R-100*. These two naval rigids will be almost thrice the size of the *Los Angeles* and constructed under methods possible only in ships of their size. That impetus should soon produce commercial airships for American syndicates.

What's the Matter with Mexico?

A Final Article in a Series on Our Southern Neighbor

HENRY KITTREDGE NORTON

THE CATHEDRAL AND THE NATIONAL PALACE, MEXICO CITY

MEXICO, with a population politically immature and the great majority politically incompetent; Mexico, with a government that is a semi-disguised dictatorship in the control of a group of men who lack the guidance of either a national tradition or a political ideal—this Mexico will for some time present a troublesome problem to neighboring nations. Mexico's most important neighbor happens to be the United States. Not only physical contiguity, with hundreds of miles of common land frontier, but the large part played in Mexican life by trade and commerce with this country, the enormous participation of American capital in Mexican economy, the intermingling of the two peoples and the clash of cultures, all go to make the United States a dominant influence in Mexican affairs and, conversely, make Mexico an important factor in the life of this country.

This international intimacy has existed since Mexico threw off the Spanish yoke in 1821. It has sometimes been friendly but more often antagonistic, on several occasions leading to hostile operations, and once to open war. The political instability in Mexico and the prospect that this instability will continue for many years to come make it impossible for this country to leave American interests to the protection of the Mexican Government, and the size and importance of those interests—money investments alone running to more than $1,250,000,000—preclude their sacrifice by a confiding assumption that Mexico is an organized modern nation, or is shortly to become one.

The actual conditions in Mexico make it necessary for the government of this country to interest itself continuously and somewhat intimately in the problems that affect Mexico and in the various attempts at their solution. Only in this way can it effectively oppose the forces in Mexico that would joyously destroy American interests and perhaps no less joyously threaten American lives. The problems are many and penetrate deeply into Mexican life—so deeply, in fact, that many of them would assume the aspect of international problems even in the absence of the intimacy that marks the relations between Mexico and the United States.

For example, there is the matter of claims against Mexico. During Mexico's troubled history innumerable wrongs have been perpetrated against foreigners. They have been subjected to false arrests and imprisonments. Justice has been denied them. Their property has been confiscated. And they have been robbed and murdered. Sometimes these incidents have given rise to talk of war.

In this connection it is well to remember that most of our serious clashes with Mexico have occurred not, as some would readily assume, under Presidents accused of subservience to "Wall Street," but under Presidents known for their opposition to the American money power. Jackson wanted to fight Mexico. Polk went to war with Mexico. Wilson twice invaded Mexico. No one would accuse these men of catering to predatory American capitalism. On the other hand, the present Administration, often accused of aggression, is responsible for the creation of two claims commissions for the purpose of arriving at a peaceable, rather than a forcible, settlement of our claims against Mexico.

The Special Claims Commission devotes its attention to claims arising between 1910 and 1920—the years of the so-called "Mexican Revolution." Its files include 3,148 claims. In the four years of its life it has but one decision to its credit. That decision went against the United States by virtue of an opinion by the "neutral" chairman, a Brazilian jurist. The case was a claim by the families of nineteen Americans who had been murdered by Villa after they had received a safe-conduct from General Obregón. Under the convention establishing the commission, Mexico was thought to have assumed liability for such cases and, in the ordinary course of procedure, all that remained for the commission to do was to fix the amount of damages to be paid. The Mexican member, however, did not hesitate to vote against the claimants. And the Brazilian came to the astonishing conclusion that, as Mexico had assumed liability "voluntarily," she should not be required to pay! After this effort—which incidentally, if accepted, would defeat every claim before the Special Commission—the jurist from the lowlands of Brazil found the altitude of Mexico City too great for his health, and resigned.

The other commission, known as the General Claims Commission, has charge of all other claims by Americans against Mexico or by Mexicans against the United States since 1868. Of the 2,781 claims filed against Mexico, it has settled 51. Of the 836 claims filed against the United States, it has settled 9. This is the disappointing net result of our attempts to settle disputes with Mexico by arbitration. It is the actual outcome in practice of that "diplomatic protection" that is supposed by nervous people to "lead direct to war." In reality, we have had no war, and Americans have received very little protection.

"Very little protection," even if we reckon the small number of cases "settled" as that much to the good. Actually, even these claimants have received only an adjudication. That is the only "settlement" that they have obtained. They still have to collect the money—if they can.

And here we must look at Mexico from the inside for a moment. The total government income for the current year is estimated at $145,000,000. Out of this must be paid current running expenses amounting to $115,000,000. There may be some extravagance in this. There may be some graft. Of both probably no more than the average of other countries; at any rate, not enough to be made an international issue. Mexico must have this money to remain a going concern and hold out the promise even of future payments to claimants. Of the remaining $30,000,000, the present government is expending $15,000,000 on public works—roads, irrigation projects, schools, etc. As such works are the only means by which Mexico can ever improve its condition, no valid objection can be made to these expenditures.

This leaves $15,000,000 for payments on Mexico's outstanding obligations—interest and principal. The total amount of these liabilities is not exactly known. There is a bonded debt that, with accrued interest, amounts to more than $500,000,000. There is a floating debt of between $75,000,000 and $100,000,000. Then there is the indebtedness on account of land expropriations, the ultimate amount of which can only be guessed, but which is already more than $100,000,000. Mexico thus has an outstanding acknowledged indebtedness of very close to $700,000,000. Interest at 5 per cent. on this would be $35,000,000 a year, or more than double the $15,000,000 that Mexico has now available for the service of its debt. And this takes no account of sinking fund or principal payments.

What chance is there, then, for the payment of claims? The claims against Mexico—and these are held not only in the United States but in a number of other countries—total close to $1,000,000,000. These will of course be reduced by adjudication to perhaps $100,000,000, but that is still many millions more than Mexico can shoulder at present.

Faced by a national balance-sheet of this kind, it would be idle for the United States to press for the repayment according to the letter of the bond, even of borrowed money. It would be equally idle to insist upon the payment of claims. Mexico simply hasn't the money. The State Department can, to be sure, assist American claimants to have their claims adjudicated and acknowledged by the Mexican Government. It has made repeated attempts to arrive at agreement with Mexico for new neutral members of the two claims commissions, both of which are now without chairmen.

By Burton Holmes from Ewing Galloway

MEXICO'S HANDICAPPED FUTURE

Two thirds of her fifteen millions of people are poor and of Indian mentality. The mother and child pictured above are of this large class.

The difficulty has been that we would not accept a chairman from a country that interprets international law in the Mexican—not to say the Brazilian—manner. Mexico likewise has refused to accept a chairman from any country that interprets international law after our manner. This may be regrettable, but it is understandable. The two governments have now agreed to "go it blind" and jointly invited the Minister of Foreign Affairs of the Netherlands to appoint some suitable person to act as chairman of both commissions. This may secure some similarity in the law applied by the two commissions, though it does not promise to expedite their work.

Promptness, however, is not a vital matter in the present instance. The cases will probably all be settled long before Mexico is able to do any more than acknowledge her liability to pay the judgments.

What is even more promising is the suggestion—which comes from high American sources—that Mexico agree to pay one lump sum to the United States to cover all American claims. This would stop the expense of the commissions for both parties and effect a saving of half a million dollars a year. The United States would distribute the payments, as received, among the claimants, instead of advocating the claims before the commissions. The result to the claimants should be quite as satisfactory, and one more bone of Mexican-American contention would cease to exist.

The basic problem in either case is to get Mexico sufficiently on her feet financially so that she can actually make payments.

This cannot be done by writing ardent notes to the Foreign Office or by threats of intervention or war. Those may be the only methods recognized by international law, and by that law we might be relegated to the necessity of invading Mexico and annexing a section of her territory in the good old-fashioned way. But such methods—and to the same extent the precepts of international law—are out of date. Here is a case where a great and powerful country has no desire to increase its territory at the expense of its neighbor, but does desire to have its citizens paid what that neighbor owes them. The problem is to find the means by which the wealthy creditor nation can assist the poor debtor nation to rehabilitate its economy not only to the point where it can pay its debts, but also to the point where it can be a desirable neighbor and a good customer.

Obviously, a primary condition for the working out of this fundamental problem is that such money as is loaned to Mexico or invested in productive enterprises in Mexico must be accorded the degree of security necessary to attract the new capital that is essential. Any high-handed expropriation of property, any legislation calculated to destroy property values, means that Mexico must reckon not only with the owners and such political pressure as they are able to bring to bear, but also —what is far more serious for her future— with the fact that such legislation would make it impossible to secure the financial and economic assistance necessary for her own rehabilitation. It is this fact that gave special significance to the oil controversy, now happily ended.

The psychological instability of the Mexicans, the utter absence of any established national tradition or racial genius, tends to make any government that is set up in Mexico peculiarly susceptible to political ideas that may be prominent at the moment. In 1917, the success of the Bolsheviki in Russia drew the attention of the world to their distinctive political philosophy. While the Mexican constitution of that year was promulgated in February, some months before the Bolsheviki attained to power in Russia, it was not before Bolshevist apostles to Mexico had carried the gospel of Communist salvation to the politicians of that country.

The work of these apostles bore fruit in the provisions of the new Mexican constitution. Their basic concept that "property" rights must be subordinated to a vague something that they termed "human" rights appeared in the new constitution in a number of provisions that, if carried into effect, would at least subordinate "property" rights. Just what "human" rights are to be exalted is not so clear. But at any rate land was to be distributed to the people, and oil and other mineral deposits were declared to be the property of "the nation." There is, to be sure, a provision that private property shall not be expropriated except for reasons of public utility and by means of indemnification, and another stating that no law shall be given retroactive effect to the prejudice of any person whatsoever.

Just what would have happened if Mexico had possessed the vast area and impenetrable mass of Russia and neighbors whose whole energies were directed to the prosecution of a life and death struggle, we can only guess. But Mexico was comparatively small and easily reached, and next door was the United States, which, while it was soon to enter the World War, still possessed ample means to protect the rights of its citizens in Mexico. And those citizens owned a certain amount of Mexican land and a large share of the producing oil fields. An attempt to enforce the provisions of the new constitution to the detriment of these owners was to invite a dispute with Washington. That it was not wholly advisable to do. At least, it was not advisable to press the matter to the point where Washington might take coercive steps to enforce American rights.

Nevertheless, the constitution provided in so many words that the oil deposits belonged to "the nation." Mexican history made it inevitable that whatever group happened to be in power should confuse its own identity with that of "the nation." Although the exigencies of the moment might demand caution, no Mexican politician after 1917 could keep himself from thinking of the enormous sums that would accrue if Mexico could take over the oil wells.

The press of other matters prevented the testing of the oil issue until General Calles had become somewhat accustomed to the Presidential office. Then the attempt was made. A law was passed for the enforcement of the constitutional provision. Owners of oil lands were required to apply for a concession from the government to continue their operations. In order to secure this concession they had to renounce the right of appeal to their own governments for protection. The concessions were to be for fifty years. But the nonchalance with which the Mexican authorities had undertaken to substitute a fifty-year concession for a fee-simple title gave little assurance that, once diplomatic protection was waived, they would not take steps to destroy what value there was even in a fifty-year concession. The process was plainly a step in the direction of confiscation, and, if foreign owners acquiesced in that step, it was feared that the remaining steps would be taken in rapid succession.

Washington took its stand squarely on the issue of confiscation. It made no threats to use force, but it insisted upon the observance of well-understood principles of international law. In doing so, it had to receive and answer diplomatic notes of a cynical insincerity that it would be hard to equal even in a field where sincerity has not been a cardinal virtue. As one man who had extensive dealings with the Mexican Government during this period said: "When a Minister of State knows he is lying, and you know he is lying, and he knows you know he is lying, and still he lies—it is not only impossible to get anywhere, but it is extremely difficult to keep your temper."

When the Mexican Government blandly informed the State Department that the new law was not retroactive because it did not modify the title that the owners had had in the past, but would affect them only in the future, the Mexican argument reached a depth of inanity that made further discussion useless. The United States Government could only possess its soul in patience and hold itself ready to protect its citizens against the actual seizure of their properties until such time as Mexico should see a new light.

It was during this period that the professional liberals in this country mobilized the forces of sentimentalism for an organized attack upon the Mexican policy of the government. The United States was "imperialistic," "militaristic," "aggressive," "domineering," and all the other stock adjectives of political denunciation. Mexico, on the other hand, was a weak and struggling nation, freed at last from the despotism of Diaz and inspired by a benevolent nationalism that was to create a new and millennial social order. Mr. Kellogg and Mr. Sheffield, then Ambassador to Mexico, were the evil genii who were obstructing this much-desired development. They had to bear the brunt of much hard language from the disciples of fantasy in international affairs.

These same vociferous cohorts have worked themselves into an ecstasy over what they choose to describe as a "reversal of American policy" by Mr. Morrow and the resulting improvement in Mexican-American relations. But in their estimate of Mr. Morrow's course they have gone as far astray as they did in their estimate of Mr. Sheffield's. They have chosen to ignore the fact that while the personality of an Ambassador has a marked effect upon his unofficial relations with members of the government to which he is accredited, and may perhaps affect the smoothness of his official relations, an Ambassador does not make policy.

Mr. Morrow's irresistible personality is widely known. That it has enabled him to accomplish a great deal in Mexico is beyond dispute. Mr. Sheffield's character is not so well known. But those who know him characterize him as a delightful gentleman and an able diplomat. Despite his pleasing personality he found himself, in order to carry out the instructions of his government, in frequent opposition to the Mexican officials.

American foreign policy is fixed, not by United States Ambassadors, but by the

President of the United States with the advice of the Secretary of State and the officials of the State Department. Now it so happens that there has not been the slightest change in American policy toward Mexico from the time when Mr. Sheffield first went to Mexico City as Ambassador to the present. Mr. Morrow has not sacrificed one jot or tittle of the principles that Mr. Sheffield advocated.

The United States, represented by Mr. Morrow, is pursuing exactly the same policy toward Mexico that the United States, represented by Mr. Sheffield, pursued. That policy is to protect American rights on the one hand and to render every assistance to Mexico for the solution of her problems on the other. The welcome change in Mexican-American relations is due fundamentally to a complete change of attitude on the part of the Mexican politicians. During Mr. Sheffield's time those in power were preoccupied with the idea of confiscating American properties. They ran head-on into American opposition, and Mr. Sheffield symbolized that opposition. They tried in every way possible to overcome that opposition, and when they failed, they readily shifted to a course of coöperation. Mr. Morrow's coming enabled them to do this with good grace. But it is hardly probable that they would have adopted their present conciliatory attitude if they had not first learned that nothing was to be gained by antagonizing the United States. Mr. Morrow caught them on the rebound and, with incomparable skill, has guided them along the path to progress.

The new Ambassador's genial personality, his brilliant previous record, his well-known skill in the analysis of problems, his sympathy with the Mexican difficulties, his warm reception by President Calles, and his evident hold on the latter's confidence, all tended to support the reversal of the Mexican attitude and to set the government firmly in the direction of coöperation. The enthusiasm invoked by Lindbergh's flight assisted Mexican officialdom to turn popular sentiment in a similar direction. The complete about-face upon the part of both government and people in Mexico made possible a new approach to outstanding problems. Mr. Morrow was quick to take advantage of the opportunity thus offered him.

The first fruit of the new planting was the elimination of the oil controversy. It must not be forgotten that the government of Mexico is a "personal" government and that when President Calles makes a decision the governmental machinery obediently grinds out the necessary documents to put it into force. Calles was convinced on the oil problem. There followed a decision of the Mexican Supreme Court sustaining, practically in its entirety, the contention of the State Department that the Mexican law was confiscatory. Without more ado, the statute was amended, new regulations were drawn, the American oil men announced their satisfaction with the result, and the oil controversy passed into history.

Next, there is the land problem. The desire of the Mexican peon to own land was unquestionably real. This desire, together with the sullen resentment of the peons at their status, furnished the explosive force that disrupted the Diaz régime. Nevertheless, the land-hunger of the peons has been grossly exaggerated for political purposes. Only a pitiful minority of them are at all equipped with the knowledge, skill, or money necessary to operate their own farms. Centuries of peonage have made them utterly dependent upon the *hacendados*, not only for capital and direction in their agricultural work, but for care in trouble, sickness, and death. They are but children of a larger growth, who require a considerable period of apprenticeship under able guidance and appropriate financial assistance before they can hope to stand alone.

Revolution, however, is traditionally impatient. The new rulers of Mexico were anxious to see the full flowering of their efforts without delaying for the necessary cultivation and nurture. Thousands of the lesser fry among the politicians saw in this situation an opportunity to turn an acceptable penny for themselves. The Constitution of 1917 and the laws passed pursuant thereto authorized a practically unregulated expropriation of landed property. The expropriation was not limited to undeveloped or uncultivated lands. And the men who spurred the Indians to take advantage of the new law were not interested in undeveloped properties. They went into the *haciendas* and calmly settled on the best there was. They took the cultivated lands, harvested and sold the crops. They seized the water-rights and the necessary buildings. Thus were the Mexican people enabled to reap with all celerity the benefits of revolution.

The resulting diplomatic issue with the United States was similar in character to that over oil properties. Some American land was seized in the general expropriation. To be sure, the owners were to receive in course of time government bonds for their properties. But these were to be for the amount of the assessed value of the land taken, plus 10 per cent.—a wholly inadequate compensation even if the bonds had any value. As they did not, the United States again raised the objection that the procedure was confiscatory.

There is reason to hope that the land issue will resolve itself in much the same way as the oil issue did. But for Mexico the land problem is much more far-reaching. The effect of the unregulated expropriation of cultivated lands has been disastrous. Through it Mexico has suffered repeated loss. *First*, an indebtedness of more than $100,000,000 has already been incurred for the payment of the owners of expropriated property. *Second*, expropriation goes on apace, rolling up additional indebtedness without any control by the Treasury Department and regardless of the ability of the country to bear it. *Third*, either the lands that were formerly cultivated by the *hacendados* have not been replanted at all by their new owners, as has happened in a great number of cases, or the unskilled and unequipped Indians are barely managing to secure their own subsistence from areas that formerly produced a large surplus. *Fourth*, the *hacendados* will not cultivate the raw lands that have been left to them, even where water is still available, because of the practical certainty that as soon as a crop is in prospect these lands will likewise be expropriated.

By means of this debilitating process, Mexico, with its enormous area amply endowed to support its 15,000,000 people, has been reduced to the absurd extremity of importing food-stuffs, thus placing an additional burden upon Mexican economy to meet payments abroad. Her net expenditure on this account has run between $15,000,000 and $20,000,000 a year ever since 1920, until last year when, through the persistent efforts of the government to increase production, it was reduced to approximately $10,000,000.

The problem is evidently a serious one, and yet a solution is not impossible. Now that the first flush of revolutionary fervor has passed, further expropriations might be limited to a budgeted amount each year, and paid for in cash. This step would effect several beneficial results. It would limit expropriations to the actual need for families who are willing and able to cultivate land. It would enable the *hacendados* to resume production with some confidence that the newly developed lands would not be seized, or if they were, payment would be forthcoming. While production would thus be increased to meet the needs of the country, the reckless incurring of further indebtedness would also come to an end. Despite the obstructive effect of some political considerations, there is pressure toward such a solution of Mexico's agrarian problem.

American interest has been as keen in the remaining—and perhaps most important—problem, that of the relation between Church and State, as in any of the others, although it is even more strictly a domestic affair. Much has been written on this question, and, without doubt, more sentiment and emotion has been expended in the discussion of it than in that of any other Mexican problem. It is difficult to approach a question involving religion with the scientific objectivity that is more easily applied in other cases. Yet the fundamentals of the Church issue must be stated to complete our survey of the Mexican situation.

Priest and warrior collaborated in the

conquest of Mexico four hundred years ago. They destroyed the Aztec Empire and the Aztec religion. They substituted Spanish rule and the Roman Catholic religion. Until Mexico became independent, in 1821, it remained very much a sixteenth-century colony, fenced about by the rule of Spain and preserved from both the contamination and the progress of modern civilization. During these three centuries, the Church maintained its mediæval ascendancy. Even when independence was achieved, it was merely a transfer of the sovereignty from the Spaniards in Madrid to the Spaniards in Mexico City, and the Roman Catholic Church was able to write into the first constitution of Mexico its establishment as the national church and a prohibition of the practice of other faiths. From that day to this, however, the Church has had to meet the increasing force of the demand that it relinquish its privileged position.

The first great anti-clerical victory was registered in the Constitution of 1857, which established freedom of worship and denied to religious corporations many of the privileges that they had formerly enjoyed, including the right to own property in excess of the land and buildings required for the carrying on of spiritual work. The ill-starred attempt to establish a monarchy in the New World under Maximilian was the work of the clerical reaction. Although this failed, the provisions of the Constitution were never enforced against the Church down to the end of the Diaz régime.

Thus the Church found itself, during the revolutionary period, in much the same position as the landowning and ruling classes. It had assisted them to build dikes against the rising liberal tide and it was inevitable that in time the dikes should come down with a crash. This crash was precipitated by the revolution in 1910. The Constitution of 1917 placed public worship under governmental supervision and transferred all the properties of the Church to the nation. In 1925, President Calles determined to give effect to these provisions and brought about an open breach with the Church. The clergy discontinued all services, establishing conditions somewhat similar to those of the mediæval interdict. The government refused to yield, and the struggle still continues.

The Church warmly defends its course in Mexico, denies that it interferes in politics, emphasizes the spiritual and educational services it has rendered to the Mexican people. It makes no point of its insistence upon the supremacy of the Church, although it is hardly probable that the clergy would formally relinquish the claim to a special position outside and above the sphere of civil jurisdiction. Spokesmen for the Church have emphasized their desire to have simply the same privileges that the Church enjoys in the United States, and they denounce the restrictions of the Mexican Government as persecution.

The government contention, on the other hand, recites the long participation of the Church in governmental affairs from the days when the Inquisition was a flourishing institution in Mexico. It claims the Church has not only interfered in the political life of the country, but also attempted to control it. More specifically, it regards the Church as utterly reactionary and bitterly opposed to the present régime and all its works. It looks upon the desultory revolt in the southwestern states of Mexico, in which some 25,000 men are carrying on a guerilla warfare against the government, as incited and supported by the Church. It demands the complete elimination of the Church from politics and the restriction of its activities to the spiritual guidance of the people.

That there is a measure of truth in all of these contentions on both sides, a disinterested observer could hardly deny. The Church has much good to its credit in Mexico; but there is much in its history and in its present contentions that is open to question from the present-day point of view. Countries like America and France, where a complete separation of Church and State has been achieved, cannot but sympathize with the Mexican effort to free the government from clerical control; but there is less room for sympathy with the harsh and rigid tactics that have characterized that effort.

The problem in theory is soluble only by the triumph of force. The Church will not voluntarily recognize the supremacy of the State and the State will not voluntarily recognize the supremacy of the Church. It is a bit disingenuous to cite the example of the United States. The arrangement here works very acceptably with a population only 20 per cent. Catholic. The same arrangement in Mexico, where the population is practically 99 per cent. Catholic, would give the Church such complete political and educational control as to amount to an utter defeat of the government's position.

Not the least significant thing about the whole struggle is the fact that a population so overwhelmingly professing the Catholic faith should permit an attack upon the Church's position at all. Yet the best qualified observers report the attitude of the great majority of the people as one of complete indifference. This may be due to a lack of desire to become martyrs for the Church. It is hardly due to a lack of religious interest, because from one end of the country to the other the people are holding services in the churches without the assistance of a priest. Yet the fact of this indifference is sufficiently clear, and the struggle becomes one between the government and the hierarchy, with neither side able to count on any substantial support from the masses of the population.

With a deadlock on the question of theory, and the power to enforce its will in the possession of the State, some compromise must be found in order to allow the Church to resume its spiritual functions. The Mexican clergy will not relinquish the power and privilege they have so long enjoyed if they can help it.

Rome, however, has a broader vision, and it is from this direction that a solution may come. Not a formal settlement of the theoretical question of supremacy —Rome would be as slow to resign its claims as the Mexican clergy—but a compromise on the practical aspects of the question, some *modus vivendi* under which the Church would resume its spiritual functions in Mexico but consent to a rigid exclusion from politics. It is an encouraging development—Mr. Morrow receives credit for it—that Rome and Mexico City are now in direct negotiation.

It thus appears that the immediate problems, both domestic and international, which now distract Mexico, are capable of solution. It appears to be the present intention of the Calles dictatorship to solve these problems along reasonable and constructive lines. If they are allowed to retain their hold upon the governmental machinery for a sufficient period, there is no reason why these problems should not go the way of the oil problem. This will require forbearance on the part of Mexico's creditors, the largest of which is the United States. But this country has given ample evidence of its willingness to be patient as long as Mexican efforts continue along constructive lines. Other countries will no doubt continue to follow the American lead in this respect.

The disposition of the immediate problems, however, is not all that is to be accomplished. Behind and beyond all that, and reaching far deeper into Mexican life, is the task of arriving at some stable form of government that can insure steady progress along the road that has been taken within the last year by the present government. That task is a monumental one, for it involves the political education of all but a small fraction of the Mexican people. This political education must be the outgrowth of a general education, the seeds of which have hardly been planted. Meantime, dictatorship, with its continual threat of revolution, disorder, and retrogression, will continue.

If evidence were needed to prove that Mexico has not yet achieved the state of well-being promised by the revolution, it is to be found in what the Mexicans call the "doleful caravan"—the growing stream of emigrants headed toward the northern border. Despite the vaunted achievements of the existing régime in Mexico, this emigration steadily increases.

It is a curious thing that from a country that makes so much of its efforts on behalf of the laboring man, thousands of laborers should leave every month to seek their fortunes among the supposedly hated Anglo-Saxons in a land that is denounced as the stronghold of capitalism.

And yet the figures cannot be gainsaid. Three, four, six, eight thousand Mexicans leave their homes every month to find work in the United States. In the year ending June 30, 1926, the total was more than 48,000. Last year it was more than 68,000. This year more than 80,000. Of all the countries of the New World, Mexico alone is a country of emigration. People do not migrate *to* Mexico, as they do to all other American countries. People migrate *from* Mexico. When the wealth and resources of the country—even after allowance has been made for exaggeration—are considered, the depressing effect of political instability is apparent.

The resulting incursion of Mexicans also presents an additional problem for the United States. The figures given above are for those who obtained visas and enter the United States legally. There must be added to this an unknown number, possibly 20,000 annually, who are smuggled across the border. But this total does not represent a net increase in the Mexican population of the United States. Many thousands of the immigrants come for the harvesting season and then return to Mexico. Of those who return, the United States makes no record. Mexican records show many more returning to Mexico than enter this country each year.

This, however, is utterly inconsistent with the mounting total of Mexican-born residents in this country. Numerous American estimates of the return movement have been made, but practically all of them are offered to support either the contention that the Mexicans should be placed under the restrictions of the immigration law or the contention that they should not. The accuracy of these estimates is therefore open to question.

The fact remains that there is a net Mexican immigration, numbering many thousands, into the United States every year. Already legislation has been introduced in Congress to restrict this immigration. Agriculturists, and other employers of labor in the West, oppose any restriction, but the demand for limitation will undoubtedly grow as it has in the case of Asiatics and Europeans. It will unless the improvement of conditions in Mexico is sufficiently rapid to make the home country more attractive to its people.

The probability of such an improvement has not been increased by the assassination of General Obregón. He had been duly elected to the Presidency under the forms of the constitution, and his succession to office would have added one more precedent to the all too recent practice of peaceful transfer of the Presidency. His death at the hands of a fanatic—it makes little difference by which of the various contending factions the assassination was inspired—throws the whole political life of the country into uncertainty again. No man except Calles has shown sufficient strength to hold the country together in such a crisis. Yet if Calles remains in office he will by that very fact strengthen the forces against him. He, or some one designated by him, may be able to retain peaceful possession of the government, or there may be a new upheaval that will undo much that has been accomplished in recent years. In that case the various problems that affect the relations between Mexico and the United States may present themselves under even more aggravating circumstances than in the past.

Shall We Hang The Jury?

Yes, Say the Lawyers

GREGORY MASON

Mr. Mason, one of our best-known contributors, spent several months interviewing prominent jurists and lawyers upon the defects of American justice, and in this article he outlines the consensus of opinion as to what should be done to improve and speed up our jury system. A second article on the defects of American justice will appear next month.

THE MORE one studies the threatened breakdown of justice in the United States, the more impressively is one convinced that a satisfactory alleviation of our present disgraceful situation can come only as a result of widespread and insistent popular demand. Foremost among those who share this belief are the outstanding leaders of our Bench and Bar, who are urging their fellow-judges and lawyers to help the cause of law reform. By their own efforts, judges and lawyers can do little more than show the way to the rest of us. We ourselves must supply the motive power.

What the machinery of justice needs more than anything else is a general speeding-up. The ill effect of slow procedure in the decision of *civil* cases is obvious enough; such tardiness means a great increase of expense to the litigants, discourages the transaction of business relating to the issues involved, and inconveniences whatever parties may be awaiting their own turn in the courts. But dilatoriness in the determination of *criminal* cases has even more disastrous effects, the chief of which is the encouragement of crime.

Judges, criminal lawyers, prosecutors, and sociologists whom I have interviewed all say that the chief cause of the steady growth of crime in the United States is the conviction widely held throughout the underworld that a man who breaks the law may do so with a very good chance that he will never have to pay the legal penalty. Not faulty measures for detection, but cumbersome procedure for conviction is what offers the criminal his brightest hope that he "can get away with it." Red tape and outworn formalities have created a shameful congestion in the courts of our country. All too typical of municipal and state courts throughout our land is the case of the Municipal Court calendar of Brooklyn, New York, which a few months ago contained 15,532 cases awaiting trial.

Our Federal Courts are in a similar plight. According to data laid before Attorney-General Sargent at the end of 1927, there were approximately 149,000 cases pending in the Federal Courts at that time. Of this number, 59,432 were bankruptcy cases; 8,717 were admiralty proceedings; 35,386 were criminal cases; 16,441 were civil actions to which the United States was a party; and there were 29,870 other cases in which the United States was not a party.

An analysis of this jammed mass of litigation on the Federal calendar discloses something that is true of all the courts in the land. This is the fact that a good deal of the business that clogs the wheels of justice in the United States springs from so-called sumptuary legislation—that is, from the enforcement or the attempt to enforce laws regulating personal conduct in matters that most of the civilized nations of the world do not consider subjects for government regulation.

I refer not to prohibition legislation alone, but equally to a congeries of peculiar ordinances enacted in various parts of our picturesque country restricting citizens in this land of the free in matters such as the use of tobacco, the length of the skirt, and indulgence in Sabbatarian hair cutting, baseball, and harmonica-playing. Of course, we shall have a high crime record so long as we continue to class as criminal certain activities that the common sense of the greater part of humanity considers should be regulated by conscience or custom rather than by law.

If we continue to study the congestion of our courts, we soon realize that one reason American court calendars are crowded is the widespread use of juries and the faulty organization of our jury system. Chief Justice Taft, who, when he was President of the United States, called our administration of criminal justice a disgrace to civilization, is foremost among distinguished advocates of the proposition that American legal procedure must be simplified, particularly in jury cases. In the course of a statement to *The New York Herald Tribune* recently, Chief Justice Taft said:

"We need legislation to enlarge the power of the judges to guide the trial, and to help the jury in understanding the evidence and in reaching its conclusions upon the evidence. This means that the law should not prevent the charge of the Court from being enlightening and clarifying. It should obviate the camouflage that is so often created in a court room by the skill or histrionic ability of counsel. The procedure and rules of evidence should not be such that the lawyers can weave a web to trip the trial judge, which an upper court, by reason of technical rules, would have to set aside. The truth is that the American people in many states have distrusted the judges, and preferred to let the juries wander about through a wilderness of evidence that often leads to a defeat of justice."

The Chief Justice's remark that the American people have distrusted the judges goes right to the heart of the matter. Criminals are able to escape justice largely because our system of judicature has been created with too much care that the individual citizen shall be protected against possible tyranny on the part of judges, prosecuting officers, and all other representatives of the state.

This statement may sound unpleasant; you may contend that it is impossible to surround the citizen of a country that calls itself free with too many safeguards against tyranny. The fact remains that we have been so eager to protect ourselves against the unjust accusation of crime that we have made it very difficult for our legal machinery to function smoothly and swiftly in the prosecution of just accusation of crime. A scrutiny of history will explain why many cumbersome and outworn pieces of procedure ever came to be included in our judicature. This is particularly true in the case of that ancient and honorable Anglo-Saxon institution, the jury.

There is a good deal of doubt about the origin of trial by jury. We know, however, that the Greeks and Romans had a similar institution. Indeed, the Roman system at the time of Justinian was very like ours, except that attached to every jury was a lawyer whose function was to advise his fellows upon the law as it related to the case under consideration. For some unknown reason the Roman jury system was not immediately imitated by the Anglo-Saxons, who had to put up with the same makeshifts the earliest Romans and Greeks had tolerated.

The present Anglo-Saxon trial by jury takes its origin from a Norman institution called *Recognitio* or *Inquisitio*. This was sponsored by William the Conqueror. Baffled with the problem of governing a people whose customs were unfamiliar to him, he made it a practice to call together leading men from each neighborhood to advise him about the king's rights in that particular district, who the landowners were, and what persons, if any, were suspected of crime, etc. Originally, the Anglo-Saxon and Norman courts were made up of the heads of one hundred families. Later the membership of these bodies was reduced to twelve.

The test of guilt was at first made by a mere oath. If the accused was a man of good reputation he was considered "oathworthy," and his own oath was sufficient to dispel the accusation against him unless that charge was supported by the oaths of other persons. In the latter case, he was required to get men who would take oath for him. These men were called "compurgators." Twelve compurgators were required in a given case, including the man who was taking oath for himself—the accused one.

But often in criminal cases mere oath-taking was not sufficient to acquit a man of the charges against him. There now came into use the "Ordeal." This was either by fire, hot iron, or hot water, or sometimes by cold water. If the ordeal was by hot water, for instance, the accused was asked to plunge his naked arm into a bowl of boiling water. If his arm came out undamaged the assumption was that heaven had worked a miracle to prove his innocence. But if the arm was injured the man was considered guilty.

As civilization advanced in England, the ordeal was recognized as an unsatisfactory method to determine guilt. Then there grew up the practice of having the charges against the suspected man weighed by a number of his neighbors who were believed by the Crown to be men of probity. Very often, the same group of men both drew up the charges and tried the case. Naturally, it was not long before objections were made against this practice of having judgment rendered by the very men who had brought the accusation. Thus gradually there were built up two separate bodies, one to frame charges and the other to try them; and here we have the origin of the grand jury and the petit jury. The grand jury, it should be remembered, was originally an instrument to enforce the law, that is, to bring charges as well as to weigh them. Unfortunately, this proper function of grand juries is sometimes lost sight of to-day.

Under the Stuarts, justice sank to a sorry level in England. Not only was there much false accusation against persons disliked by the Government, but when juries were so bold as to acquit in such cases the jurors themselves were often heavily punished through the infamous Star Chamber. The jury inevitably came to be looked upon by the people as a protection against tyrannical monarchs. It is the overemphasis of this view of the jury in our own day that is responsible for much needless delay in the administration of justice. We certainly do not need a great deal of such protection at present, for we elect our own monarchs—that is, our Presidents—and we also elect many of what were once kings' representatives, the judges.

The widespread use of juries to-day was hardly contemplated by the founders of our government. The guarantee of trial by jury in the Constitution, Article III, Section 2, is as follows: "The trial of all crimes, except in cases of impeachment, shall be by jury . . . in the state where the said crimes shall have been committed; but when not committed within any state the trial shall be at such place . . . as the Congress may by law have directed."

To-day, a man on trial in a Federal court for such a minor charge as spitting on the floor will hear his case presented to a jury. This was probably not intended by the framers of the Constitution. History indicates that petty offenses were not meant to be included in the term "all crimes" just quoted from the Constitution. In the early practice of trial by jury petty cases were not introduced.

And it was under this system that American Colonials began to organize their law. Such eminent authorities as Felix Frankfurter and Thomas G. Corcoran, writing in *The American Law Review* recently, say: "The criminal legislation of England proscribes at least 350 offenses the enforcement of which is in the exclusive keeping of the magistrates. And this list includes an English analogue for practically every one of those minor offenses the prosecution of which constitutes such new sources of voluminous jurisdiction for the United States District Court." Reviewing our Colonial legal history, these writers find that in the Colonies "a clear and unbroken practice—despite all uncertainties and reservations—emerges for two centuries preceding the Constitution. Many offenses were tried solely by magistrates. These offenses were compendiously characterized 'petty.'"

United States Attorney Charles H. Tuttle, in the Southern District of New York, a few months ago said that the petty offense that necessitates a grand jury indictment and a trial by petit jury is the "weak link" in the administration of Federal criminal law. "Procedure has blocked proceedings," in the vivid phraseology of Mr. Tuttle. "The method of trying cases has obstructed the trial of cases." As Mr. Tuttle pointed out, the early Constitution of New York State asserted that trial by jury should remain inviolate forever, yet to-day New York magistrates without the help of juries dispose quickly of a large number of petty criminal cases. Our Federal criminal machinery would profit by a revival of the ancient common-law power of summary jurisdiction.

In short, we don't need the protection of the jury against such tyranny as afflicted society in the days of the Star Chamber and the ruthless Jeffreys. On the other hand, justice would be speeded up if we were to restore to judges and magistrates some of the power that they had in our own Colonial times.

Useful as the jury is, it nevertheless frequently appears to be an uneconomical institution. For example, one often sees the spectacle of business men of high earning power and great usefulness to the community obliged to give their valuable time to duty on a jury that is hearing arguments in some civil case involving perhaps $2,000 or $3,000. Yet it would be undemocratic to suggest that men of high earning power should be drafted for jury duty only in causes economically comparable to the value of the time of the jurors.

It is frequently said that one of the benefits of jury service is that it keeps the citizens of the country interested in the administration of justice. Yet it often seems, alas, that justice is in pretty poor hands when it is entrusted to the average American jury. There appears to be a tendency in this country to-day for juries to confine themselves less and less to their proper function of bringing in a verdict relating to the facts; American jurors seem to think themselves qualified to emit all sorts of *obiter dicta* and judgments far from applicable to the case at hand.

Perhaps this is only natural, considering that the average juror is low in intellectual qualifications, very susceptible to appeals to emotion and prejudice rather than to reason—in short, easily influenced by a dominating personality among his fellow "good men and true" or among the counsel engaged in the case at hand. So absurd are the rules of procedure under which our juries are selected after a bombardment of challenges from counsel that one of the most frequent reasons for the disqualification of a talesman for jury service is that he actually knows something about the case that is being tried. That is to say, the more ignorant a citizen is—the more dull his reaction to life about him—the better fitted he is to serve on a jury!

One would like to know the mental processes of jurors by which some famous verdicts have been reached. Consider the recent Lilliendahl case in New Jersey, for example. According to the way one weighed the evidence, it seemed that the case merited a verdict of murder in the first degree or a verdict of acquittal. If the defendants, Mrs. Lilliendahl and Mr. Beach, had killed Dr. Lilliendahl, indications were that they had done it in a cold-blooded and deliberate manner. On the other hand, a good many qualified observers felt that the state had proved no case of any kind.

But what did the jury do? The jury, after considerable deliberation, brought in a verdict of "guilty of voluntary manslaughter." Certainly this seems absurd. If the defendants killed Dr. Lilliendahl, they deserved a heavier punishment than the ten years' imprisonment that this verdict carried. If they did not kill him, they should have been set at liberty.

Yet one need not have been secreted in the jury room to understand how the verdict came to be returned. Pulled first one way and then the other as they recalled the testimony of expert witnesses, the jurors probably did at last what tired jurors are so apt to do, and compromised. Perhaps they recalled the old saying: "There are liars, damned liars, and expert witnesses." They seem to have felt like another jury that once brought in a verdict of "pretty nearly guilty."

Many stories of the stupidities and the eccentricities of juries have become classics among members of the legal profession. Le Clerc Phillips tells of a jury that explained its verdict as follows: "We didn't believe the witnesses on either side, so we made up our minds to disregard all the evidence and decide the case on its merits."

Francis L. Wellman, the distinguished lawyer and writer on legal matters, tells how, after he had been defending the City of New York in a damage suit brought by a young woman injured in a fall on a sidewalk, he accidentally overheard some of the discussion of the jury through a courthouse window. The foreman of the jury began by remarking: "Now, gentlemen, before we consider the evidence, there are some important questions of law we are to decide." Whereat a voice bellowed: "Oh, to hell with the law! How much will we give the girl?"

Judge Francis X. Mancuso, of the Court of General Sessions, New York, tells an amusing story of a jury that changed its mind. This jury withdrew to deliberate at about 11 A.M. At noon the judge sent word to the jurymen that he was going to lunch and would have lunch sent in to them. As he got on the elevator to go downstairs, a messenger came to tell him that the jury had decided on a verdict of "guilty." Judge Mancuso instructed the messenger to have lunch sent to the jurymen just the same. When he returned to the courtroom he found that the jury had eaten and then changed its collective mind, returning a final verdict of "not guilty."

Frailty, thy name is human nature, and powerful are considerations of comfort to juries. In a New York City bank robbery case eleven jurymen were voting "guilty" and one stubborn chap holding out for acquittal. At noon on Saturday the judge announced that he was going out until 2 P.M. The jurymen misunderstood his announcement and, thinking they were to be locked up over Sunday, begged for five minutes more. At the end of this brief period they brought in a verdict of "not guilty."

The mixed racial composition of juries often leads to amusing complications. The Bar has a tale about a case involving a Jewish judge and Jewish lawyers for both plaintiff and defendant in a dispute between Hebrews concerning the subject of Kosher delicatessen. Ten of the jurors were Jews, but the eleventh was an Irishman and the twelfth a German. When the jury had retired, the Irishman sang out to the Teuton, "Come over here, Hans, this is none of our business. Let them fight it out among themselves."

Judge Mancuso, who is of Italian extraction, once had a sentimental jury that during its entire month of service had not turned in a single verdict of "guilty." Toward the end of its term of duty an Italian was brought into court on a charge of grand larceny. He was defended by an Italian attorney. When the jury had been out for two hours a rumor went around that a verdict of "guilty" was being reached; that was expected, since the evidence had pointed toward guilt. But when the jury returned it submitted a verdict of "not guilty." It was later learned that one of the jurors, an Italian, had held out for acquittal against the other eleven. "You have acquitted Irishmen, Germans, and Jews all month," he had argued, "and now you want to convict an Italian. I won't go along with you." His fellow-jurors had finally given in to him.

Several years ago a murder case had to be retried because the first jury was hung up by the cleverness of an unscrupulous lawyer engaged by the defendant. The latter was a middle-aged German. One of the jurors happened to be a young Russian from a certain obscure village with a long and almost unpronounceable name. Its correct pronunciation was mastered, however, by the astute counsel for the defense, who also went to some private pains to learn a good deal about the aspect and topography of that village, nestling among firs and birches on a little river under the brow of a commanding hill. During the trial this lawyer managed to confine the testimony of his client to "yeses" and "noes." Thus the German's accent did not contradict to the Russian juror's senses the clever lawyer's allegation that the defendant was a Russian who had left the little town with the polysyllabic name about the time that the young juror would have been born there. The defendant was undoubtedly guilty, and his lawyer's only hope was this appeal to race prejudice. The hope was well justified, however, the jury being hung up with eleven men for conviction and the young Russian for acquittal.

It is said that jury deadlocks of this sort have more than once been settled by the toss of a coin. In damage suits where juries are asked to find a verdict for a specific amount it is sometimes the method for each juryman to write down on a slip of paper the amount of the award that he thinks the plaintiff deserves. The sums so indicated are added up by the foreman and divided by twelve, and the result is soberly announced as a careful verdict unanimously reached by "twelve good men and true."

There can be no doubt at all that a considerable contributing cause for the rising tide of crime in this country is the growing unwillingness of our juries to convict. In this respect juries simply reflect two traits that characterize modern American society as a whole: *first*, indifference to civic duty, and, *second*, lachrymose sentimentality toward criminals. If the increasing tendency of juries to acquit in cases of obvious guilt is due to a feeling that punishment for crime as defined by statute is too severe, then let us revise our statutes. For the protection of society the important thing about punishment of crime is not that it should be severe but that it should be sure.

The proof of this is furnished by the countries of Western Europe, which have a much lower crime rate than we. These countries—France and England being two conspicuous examples—in the case of nearly all crimes tend to mete out lighter punishments than those called for in similar cases by our laws. But the percentage of cases in which the criminal is allowed to go scot-free is shamefully higher in the United States than in Europe. And there you have the most significant fact among all available data bearing on the breakdown of criminal justice in the United States.

As a central beam in our structure of judicature, the jury system is being criticized in part or condemned in whole from all quarters of our land. One of the most scathing condemnations of it is contained in the resolution presented to the committee on Criminal Courts and Procedure of the New York County Lawyers Association, September, 1927:

"The grand jury is expensive, cumbersome, archaic, inefficient . . . trial by jury is expensive, cumbersome, a burden to business men, inefficient . . . juries are sentimental, easily impressed with collateral matters, led astray by them, and are likely to render verdicts upon such impressions, irrespective of the merits. . . . In all cases . . . juries are unable to remember the principles of law charged, or to remember them well enough to understand them or apply them. . . . The history of Anglo-American jurisprudence furnishes a brilliant record of trial work in the investigation and finding of facts and in decisions upon them under the law, as made by admiralty, equity, and other courts sitting without juries, throughout the world. . . . Millions of dollars now paid by business, as taxes to support trial by jury, would be saved with their abolition."

In the suggested amendment the resolution proposed laws "to give power to the legislature to prescribe when trial by jury, in both civil and criminal cases, should be allowed; and . . . to give to the legislature power to continue or abolish the grand jury."

The argument pointed out that a "train of evils" accompanies the jury system: "most of the perjury committed, 'grandstand plays,' false logic, unprofessional trial tactics, appeal to bias, passion, and prejudice, exceptions to the admission of evidence, all the errors in charging the law, most reversible errors, the congestion of calendars, delays in justice, most of the uncertainty of litigation are all natural and unavoidable incidents of trial by jury, and would be swept away at one stroke with its abolition."

No one who listens to the hue and cry about the inadequacy of our jury system that comes from Bench, Bar, press, and pulpit, can doubt that something is wrong with the system. The changes and reforms that are suggested are many—some intricate, some simple, some foolish, some wise. In order to arrange them for the easier comprehension of the reader of this article I shall divide them into minor reforms and major reforms.

The minor reforms are aimed mainly at making jury service "less burdensome, annoying, and obnoxious, particularly to business men," in the words of the Merchants Association of New York City. This organization recently asked the Bar Association of New York and the New York County Lawyers Association to consider the following reforms:

> *First*, having the jurors report half an hour after the beginning of the call of the court calendar to avoid needless waste of their time.
>
> *Second*, the publication of a pamphlet of instructions for jurors.
>
> *Third*, the restriction of the time counsel are permitted to spend in protracted questionings as to jurors' qualifications.
>
> *Fourth*, formation of an agreement between the County Commissioner of Jurors and the Federal Commissioner so that jurors shall not be called into both Federal and local courts for duty in the same year.
>
> *Fifth*, adoption of the "pool system" as used in New Jersey, by which jurors are drawn to meet the needs of several courts instead of being drawn for each court separately.

All the foregoing improvements should be made. It is also desirable that courthouses should have a large room for the use of jurors not actually on duty. This should be equipped with desks and telephones so that such men and women could be attending to business affairs of their own while waiting to serve the state.

Before we reach the list of major reforms, there is one other suggested change that deserves advocacy, though in truth it is almost too important to be called a minor modification. This is to repeal practically all the professional exemptions from jury duty except those affecting doctors and lawyers. At present the list of callings whose members are exempt from duty would fill about half a page of this magazine. So long as the jury is retained as one of our institutions and so long as we are a democracy jury duty ought to be an almost universal requirement. The average intelligence of the members of professions that are exempt from jury duty—such as pharmacists, clergymen, editors, and members of the National Guard—is distinctly higher than the intelligence of the average group of talesmen at present. To abolish all exemptions except those for doctors and lawyers would greatly increase the level of intelligence of our average jury.

The chief suggestions for what may be arbitrarily called major reforms of the jury system are: Creation of the right of the judge to instruct the jury as to what he considers the weight of evidence; abolition of the grand jury and substitution of the system of informations by district attorneys as already developed in some of our states; abolition of the unanimous verdict; elimination of the petit jury in civil cases; and abolition of the petit jury altogether.

There is no doubt that justice would be served by giving all judges power to advise juries as to their own opinions of the preponderance of evidence. The granting of this power to judges has seemed to work very well in England and in our own Federal courts. The withholding of this power in many of our other courts is another example of the survival of that fear of the judge as a representative of a tyrannical monarch. A brilliant state judge said to me: "To-day in our country and state courts justice is a muzzled dog." The muzzle should be taken off.

Widespread criticism of the grand jury system from many men of influence in political and legal circles has included arguments for its dissolution. Even the advocates of the grand jury admit that reform is needed. One of the most frequent suggestions offered by these friends of the system is that new life should be injected into a certain aggressive function of the grand jury that has been allowed to atrophy. The grand jury was originally used almost as a detective body to hunt crime. Although this ancient power is seldom exercised, it is still recognized in theory. For instance, Section 259 of the Code of Criminal Procedure of New York says: "Grand jurors must declare their knowledge as to commission of crime. If a member of the grand jury know, or have reason to believe, that a crime has been committed, which is tryable in a county, he must declare the same to his fellow-jurors, who must thereupon investigate the same."

The Association of Grand Jurors of New York County and many other friends of the grand jury system in the United States are urging that this ancient power be used again, and there is no doubt but that its use would be beneficial if the system is to be retained. An increasing number of critics, however, is urging the partial or complete abolition of the grand jury. The elimination of this machinery in routine cases is urged by District Attorney Joab H. Banton of New York County, who says, in reviewing certain cases of this type: "In those cases, the evidence of guilt was so plain that it was not only a waste of man-power of the grand jury, but it was a waste of time and expense, to say nothing of the inconvenience of witnesses, to present such cases to the grand jury."

Robert H. Elder, formerly Chief Assistant District Attorney of Kings County, New York, is one of the many distinguished lawyers throughout our country who have reached the conclusion that the grand jury is, as Mr. Elder says, an "archaic and useless institution." Indeed, Assemblyman Cuvillier has even suggested an amendment to the New York State Constitution ending the grand jury. Mr. Cuvillier was quoted in *The New York Times* as uttering the following bitter and specific criticism: "The present grand jury system is a farce and a waste of public money. Nine tenths of the indictments are dismissed. By abolishing this system, persons charged with serious crimes could be brought to trial within a week, while in many instances at present the trial of such persons is delayed anywhere from three to four weeks."

Mr. Cuvillier's proposed amendment is said to have been inspired by a declaration favoring the disuse of the grand jury recently made by Chief Justice Taft. There is no doubt that more and more American judges and lawyers are coming to favor the substitution of some so-called system of informations. An information is an accusation of crime brought by a district attorney or other prosecuting officer. Informations are now used to a greater or lesser extent in fifteen states: California, Colorado, Arizona, Michigan, Vermont, Utah, North Dakota, Nevada, Wyoming, Missouri, Nebraska, Delaware, Florida, Iowa, and Kansas.

The petit jury is a more important institution than the grand jury, so there is nothing surprising about the fact that it has been receiving more attention that the latter institution from advocates of the reform of American judicature. Most of the experts whose views I have sounded have some alteration to suggest. The conservatives who would leave the petit jury entirely alone and the extremists who would do away with it altogether are rarer.

On the other hand, Justice Thomas C. T. Crain, of the Supreme Court of New York, informs me that he is "an unqualified advocate of the jury system and of the unanimous verdict. For all its delays, the jury gives to all the most just means of deciding the disputed cases. I favor the unanimous verdict in preference to a two-thirds majority verdict because it is more just." New York Supreme Court Justice William H. Black would permit juries to bring in verdicts upon a two-thirds vote. Frederick O'Byrne, Commissioner of Jurors, of New York County, also favors a verdict by two-thirds or majority vote.

Of course, it is by no means a universal custom that jury verdicts must be unanimous. They need not be so in Scotland, and in Belgium a majority decides. France also has the majority principle, while in Switzerland a decision may be made upon agreement of nine of the twelve good men and true. The foregoing applies to criminal cases. In general, the countries of Europe do not use juries at all in civil cases. The Continental theory has been explained to Americans by Dr. Pierre Le Paulle, of Paris. Addressing the Institute of Politics at Williamstown, Massachusetts, last year, Dr. Le Paulle made a severe arraignment of the administration of justice in the United States, particularly criticizing the use of juries in civil cases. Damning the jury system as "simply the reign of incompetent laymen," he remarked pithily: "In the United States you prefer to be judged by twelve ignorant equals; in France we prefer to be judged by three trained experts."

It is noteworthy that several of our states do not require a unanimous jury verdict to settle civil cases. Under somewhat varying conditions, three-fourths verdicts are sufficient to decide civil cases in California, Nevada, South Dakota, Texas, Washington, Wyoming, Louisiana, and Utah. In Montana, a two-thirds verdict is permitted not only in civil cases but also in the trial of misdemeanors as well. Is not Montana pointing the way here to intelligent procedure? In criminal cases of lesser gravity, celerity would certainly be secured by acceptance of verdicts on less than unanimous vote. Is there much reason to doubt that justice would be as well served this way as under the principle of unanimity?

It still remains a question if the ends of justice would not profit by the elimination of the jury in most or all criminal cases. In Connecticut, criminals may choose between trial by jury or by a board of three judges, two laymen and one professional. Maryland, too, permits the accused to dispense with jury trial if he prefers. Most prisoners do seem to prefer trials before judges alone, and the percentage of criminal cases so tried seems to be increasing all the time.

In 1924, more than 90 per cent. of all the cases tried in the criminal courts of Baltimore were heard before judges without juries. Carroll T. Bond, of the Baltimore Bar, reports that ordinarily two criminal courts are sufficient to care for the criminal docket in the city, which has a population of 800,000. At times there is not enough unfinished business for two courts, and one is able to keep up the work. Of the 1,500 criminal cases docketed during the first four months of the 1925 term of the criminal court, all except 177 were disposed of before the final day of the term. What a contrast is this efficiency to the overcrowded condition of the criminal courts in most of the other large cities of the United States!

I may conclude this study of the present condition of the jury system in the United States with the statement that the following proposed reforms seem to represent, in the opinion of intelligent judges, lawyers, sociologists, and laymen, a roughly outlined program for the improvement of the administration of justice so far as that is affected by the jury system. It should be emphasized that the men who urge the following reforms do not compose the radical wing of criticism. They constitute the great bulk of experts who appreciate that something should be done to improve the jury system while retaining certain benefits that that system undoubtedly includes. The reforms are:

First, abolish the grand jury and substitute for it the system of informations already in use in many of our states.

Second, increase the power of the judge to analyze evidence for the jury and to instruct jurors as to what he considers the weight of evidence to be.

Third, abolish the petit jury in all civil cases, which shall be tried preferably before a court of three or more expert judges.

Fourth, permit criminal accusations to be tried before judges without juries at the option of the accused.

Fifth, with the exception of capital cases, permit verdicts in criminal actions by a three-fourths or five-sixths vote of the jurors.

We may feel confident that the installation of these changes throughout the United States would certainly lessen the extent to which the method of trying cases obstructs the trial of cases, would tend to end the blocking of proceedings by procedure.

My Mystery Ships

Some Unwritten War History Now Told by

REAR-ADMIRAL GORDON CAMPBELL, V. C., D. S. O.

Admiral Campbell was one of the outstanding heroes of the war on the Allied side, and won the highest British military decorations and honors by his ingenious work in fashioning and handling "decoy ships" in the war on the submarine. His work demanded the deepest secrecy; that and his modesty have prevented him from telling his story until now. So many fantastic yarns have been woven about his exploits in luring submarines to destruction that Admiral Campbell has decided to tell his own story, and it appears in this and successive issues of the WORLD'S WORK. *In this installment he tells of his first battle.*

IN SEPTEMBER, 1915, I suddenly found myself out of a job. I had been Lieutenant in command of an old 30-knot destroyer, the *Bittern*, and had been working from Plymouth, escorting, rescuing ships, going on wild goose chases after submarines that frequently turned out to be black fish, and all odd jobs. At last one day we thought we had really met an enemy ship. She looked suspicious and refused to answer our signals. I therefore gave chase and told the chief engineer to get every ounce of power he could, with the result that we steamed back to harbor on one engine at four knots! The suspicious vessel turned out to be a new seaplane carrier doing trials, and we had broken our engines and had to "pay off."

REAR-ADMIRAL CAMPBELL AND HIS MASCOT

I had applied for a destroyer at Harwick or a gunboat in the Persian Gulf—anywhere that there might be some "scrapping"—but a more exciting job was in store for me. More than a year in the English Channel without sighting the enemy or smelling powder had made me restless, and I had visions of the war ending without my firing a shot. The idea was particularly galling because we were continually escorting our gallant troops on their way to the fighting line and also seeing the wounded returning in the hospital ships.

I was sent for at the Admiralty

THE "PANIC PARTY" LEAVING THE Q-SHIP

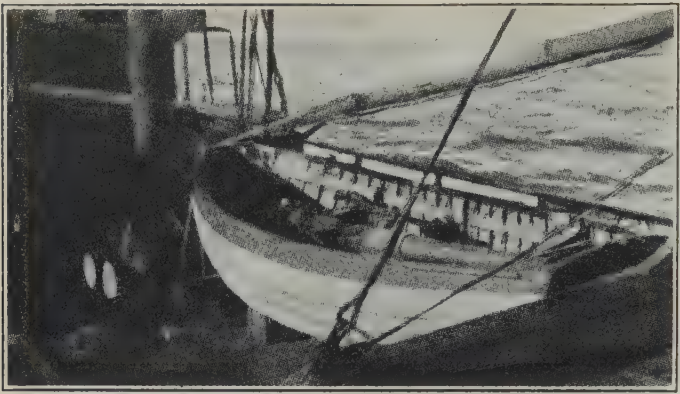
A part of the crew raced for the boats when threatened by a submarine—an element in the elaborate program for deceiving U-boat commanders and coaxing them within firing range.

and asked if I would like to go in for some "special service," but was not given any details, except to be asked if I had heard of the *Baralong* and to be told that I should have to serve under Admiral Sir Lewis Bayly. Although I didn't know Admiral Bayly personally, I knew his reputation of being a man who understood war and would tolerate neither fools nor red tape—in fact, a man to serve under, especially in war time. I had also heard faint rumors of one or two Mystery Ships in the Channel, and without a minute's hesitation I accepted the "special service." I felt myself thoroughly fortunate, as I was "fed up" on the thought that the war would end before a chance for a "scrap" came. As I left the Admiralty some one said to me: "Well, Admiral Bayly will probably either make you or break you in your new job." What more could one want in war time?

My only instructions were to proceed to Devonport, where I would find a collier called the *Loderer*. On arrival at Devonport I awaited the arrival of the ship from Cardiff. She arrived a few days later, well filled with a cargo of coal. My first thought was, "Fancy commanding a thing like that!" She looked at first glance thoroughly filthy inside and out, but she also looked a typical tramp, and the more I thought of what our game was to be, the more I got to like her and feel that she would be an excellent ship for the job. After her arrival, I received verbal instructions from the Admiral Superintendent of the dockyard to "fit her out" and had placed at my disposal three 12-pdr. guns and a Maxim.

I was given a free hand as to how I proceeded and could ask for anything I wanted except guns, which at this period were somewhat scarce. I think the independence of the job was one of the great attractions of Mystery Ships; it was not like going to a ship that is built on a more or less standard pattern and carrying out a well-known routine. Here was something "out of routine," and every thought was directed to dealing with new problems, some simple of solution and some extremely difficult.

I don't think I was ever actually told I was to go "hunting" or "decoying" submarines, but my *raison d'être* seemed fairly obvious and the less said the better,



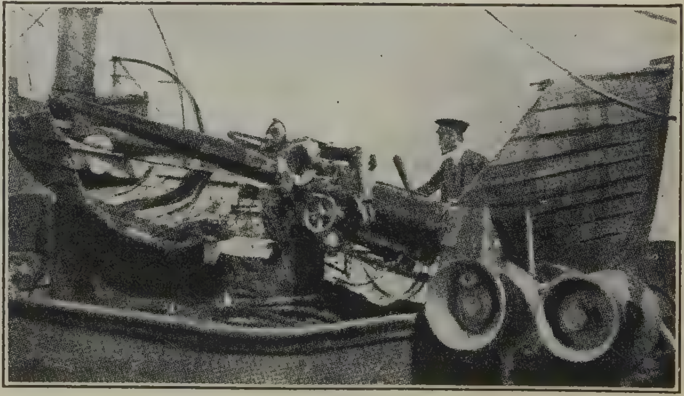
THIS DUMMY BOAT HIDES A GUN

Before a surprised enemy submarine could submerge, the movable sides of this "fake" boat could be dropped, as shown in the picture below, and the concealed 12-pounder swung into action.

secrecy in a job of this sort being of vital importance, since, if the enemy got to know of our existence and had a description of us, all attempts to decoy him to destruction would fail. My idea, therefore, was to fit out the ship as a man-of-war, but with the outward appearance of the ordinary tramp steamer that would plough the ocean with a cargo of good things. At the same time, arrangements must be made so that as soon as the enemy had been decoyed to the required position, on the order "open fire" the disguise could be thrown off in a few seconds, and the man-of-war revealed in deadly earnest.

The ship was the ordinary type of tramp steamer, of 3,200 tons, 325 ft. long, with a beam of 45 ft. Although not specially fitted to carry coal, she was loaded with more than 5,000 tons of Welsh coal. The fact that she was not fitted with ventilation for carrying coal was in due course to put us in rather a tight corner. She was a very old ship in every way and her maximum speed was barely 8 knots. According to her official record it was supposed to be 8.5, but that had been made many years previous.

The first decision to be made was the position of the guns. The largest gun, 12-pdr., 18-cwt., was placed aft in a special structure that represented a steering-engine house. A small steam pipe was led aft from the real steering engine, which was amidships, and taken over the stern. This, with steam continually puffing out, added to the belief that the house contained an engine and not a gun. The three sides of the house were all hinged halfway down, and only the back or foremost end and the roof were fixtures. The center shutter was connected to the ensign staff and so arranged that when the shutters fell, the ensign staff, together with any ensign that might be flying, automatically came down before fire could be opened. All the shutters were so fitted that they would have fallen outward unless held up, so that by connecting a wire to them all and bringing the wire to a "slip" inside the house, all that had to be done when the order to "open fire" was given was to knock the



A U-BOAT MYSTERY EXPOSED

The coil of rope in the foreground hid the gun's pedestal from too acute observation by submarine lookouts.

slip off, and the gun was in action a few seconds later.

A DANGEROUS LIFE RAFT

"Fake" deck houses and chicken coops were also used to conceal Q-boat armament. This collapsible dummy life raft conceals two 12-pounders. The picture below tells the sequel.

There was one great difficulty in the building of this house, because it had to be erected over the steering gear, which was a very old-fashioned chain arrangement. The hand steering gear had to be sacrificed altogether. Had I realized what we were in for, in the way of weather and the rottenness of the chains, I should never have agreed to it. At the time we could think of no better arrangement, and so the house was built, the floor being made movable so that at a pinch we could steer with "relieving tackles" (which became necessary).

It was essential to have one 12-pdr. in the center line of the ship so as to give us a broadside of two guns on each side. It would, of course, have been better still to have had all three guns on the center line and have had a triple gun broadside, but this was quite impossible, owing to the structure of the ship and the difficulty of disguise. The other two 12-pdrs. were placed one each side of the main deck, the sides of the ship being cut and hinged. The hinges were outboard, and had to be covered with rubber and made to look like a rubbing strake for going alongside a jetty. The ports were kept up by a bolt and pin, the guns being placed fore-and-aft against the ports. Like the guns in the house, these could be brought into action in a few seconds, the risk being taken of keeping the guns loaded, with the off chance of firing into oneself. This arrangement again was a very poor one, but I was an entire novice at the game. The rubber on the ports caused a lot of trouble and, apart from the action of the sea, generally got loosened after the ports were opened for gun practice.

READY TO FIRE ON A U-BOAT

The gun's crew snaps into action as the sides of the dummy life raft collapse.

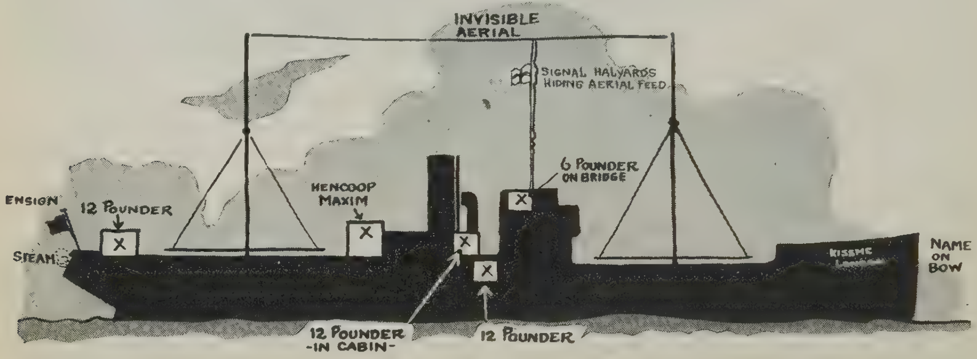
When I say the arrangement was very poor, I am speaking from after-knowledge. As a matter of fact, the guns passed the test and sank two submarines, as will be related later, but the wheel house and these gun ports would have given the whole show away any time after the middle of 1917, when Mystery Ships were well known. The

Maxim gun was placed in a hen coop on the boat deck near the funnel. The hen coop, which was covered on top with light tarpaulin, was hinged half-way down, enabling the Maxim to be brought rapidly into action on either side of the ship. Together with the Maxim were also some rifles. Two 6-pdrs. were placed, one each side of the bridge, the corners of the bridge being hinged together with the bridge screens, and easily pushed aside before opening fire. These guns were the only ones that were visible to the ordinary person walking about the ship, and therefore had to be taken down in harbor or when a pilot was coming on board.

Each gun had a good supply of ready ammunition, the reserves being in lockers on the mess deck, always a source of danger in the event of our being torpedoed or shelled. It was practically impossible to arrange to bring any supply of ammunition for the two 6-pdrs. to the bridge from the magazines (lockers), as the supply would be seen being carried up. So these guns were dependent on what was placed ready for use around them. In fact, this really applied to all the guns, as a submarine would almost certainly either have escaped or been destroyed before all the "ready use" ammunition could be fired. Every position in the ship was connected by voice pipe with the bridge, and at a later date an electric bell was also fitted to give the "alarm." Telephones were suggested, but I decided to reduce electrical gadgets to the minimum, and found voice pipes and percussion firing more fool proof and reliable.

As merchant ships of this type seldom had wireless in those days, it was necessary to disguise the wireless aërial. This was done by having it fitted as an ordinary single stay, or wire, between the two masts, the feeder to the wireless room coming down through the upper bridge like a pair of signal halyards, real signal halyards being also fitted. A sad calamity nearly happened through this one day, and I was only just in time to prevent a pilot from attempting to tie his pilot flag on to the "wireless" halyards. As a message was being passed at the time, he would probably have been electrocuted had he attempted it. Anyhow, the incident showed that the disguise was good, and the pilot never knew what a narrow squeak he had had. A wireless house had also to be built as near the bridge as possible, and therefore we put it under the chart room, so that direct communication was possible for getting signals through rapidly. I was greatly helped in the wireless arrangements, which were of a novel type, by a man from Marconi's—Mr. Andrews, who had joined the R.N.R. and served throughout with me. He had already had experience on the east coast, which proved useful.

There were no proper storerooms on board for provisions, and these had to be kept on the main deck; nor were there any heating arrangements or refrigerators. Inasmuch as the ship was employed in

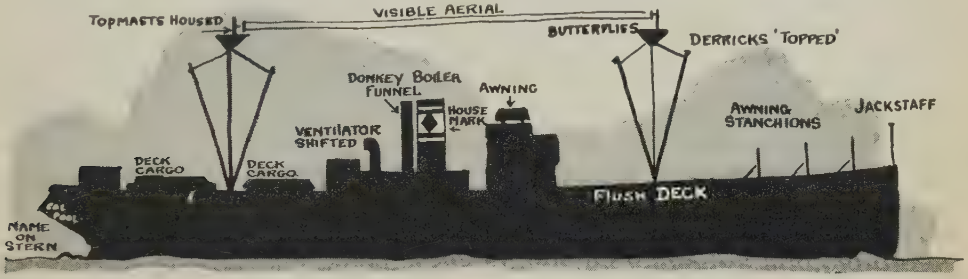


THE "FARNBOROUGH'S" DISGUISES

The sketches on this and the opposite page show the position of *Farnborough's* hidden guns and the various disguises used on Q-ships of this type.

both hot and cold climates, it will be appreciated that she was not very comfortable. The only bath on board was the captain's, and then hot water was available only when there was steam on the whistle!

Our ship's outfit was now nearly complete except for some small depth charges, which were kept hidden away on trolleys, ready to be run along to the stern and thrown overboard—a depth charge being a sort of bomb that explodes under the water at any reasonable depth it may be set to. Depth charges were a product of the war and naturally improved as the war went on. The ones we had on this occasion were quite small—of about 100 lbs. of T.N.T.—but eventually they were made 300 lbs. They would have to be dropped very close to a submarine in order to destroy it, but the moral effect on a submarine crew of having bombs around it may easily be imagined, as the lights might be put out or the "trim" altered.



THE PROTEAN SECRETS OF A Q-SHIP

The *Farnborough's* transformations were so effectual that once, after becoming suspicious of a passing ship, she was able to turn back and examine the ship until satisfied.

When the ship was fitted for cruising and fighting other things had to be thought of. To an experienced eye it is seldom that two ships look exactly the same; there is generally some slight difference even between sister ships; perhaps it is the rigging, or the arrangement of the boats, or awning stanchions, or some other small details. The importance of the point could not be neglected, as it was well known that a number of the German submarine crews were men of the Mercantile Marine themselves and had probably been English Channel pilots. Their seaman's eye would soon spot all the details of a ship. This had to be remembered and arranged for. Since a submarine could see without being seen, it is obvious that a Mystery Ship cruising continually in the same waters would soon arouse suspicion if sighted more than once, perhaps steering north one day and south the next.

As one could never know definitely whether a submarine was in the vicinity or not, we always worked on the principle that we were always being watched during daylight hours; so, when working in the same area for days on end, the appearance of the ship was changed each night after dark. If the ship was on a steady course, say from Plymouth to Gibraltar, the disguise was not necessary except in the event of an unsuccessful action. In the early days this was a comparatively simple matter, as ships displayed their own funnel and house marks. With a good supply of paint and with ready-made frameworks of all shapes—diamonds, triangles, etc.—we were able to belong to a different company each day, or as often as necessary. But, in 1916, nearly all British ships were painted alike and showed no distinctive color on their funnels, nor flew any ensign, making this disguise of no further use.

Another fairly simple disguise was to fly neutral colors, a very old and perfectly legitimate *ruse de guerre*, provided your own national colors are hoisted before opening fire. This guise necessitated carrying the suitable ensigns, special lights for night, and big boards with the neutral colors painted thereon for fitting over the ship's side. During the war, in which the submarine warfare against merchant ships was quite a new feature, the flying of "colors" was not sufficient, as it was frequently difficult for the submarine to distinguish them, and most neutral ships therefore had their colors painted on the ship's side. Consequently, if one was "representing" a neutral, the colors on the sides were necessary as well as the ensign. We therefore had these boards made, which fitted into slots on the ship's side. Canvas screens were also fitted, rolled up above them, and became unfolded when the gunports dropped, covering the boards before fire was opened. These boards also became a source of great trouble, as they were difficult to ship in the dark in bad weather and often got badly warped.

Other alterations for which we prepared were to have all the stanchions, including those of the bridge, movable; and to carry spare "dummy boats" that could be put in place or discarded. Spare ventilators, or cowls, were also carried, which could be shipped in various places. The top masts were telescopic, and we could either be a stump-mast ship or a ship with a topmast. Spare yards and trestle trees were also carried and could be put up or taken down; likewise a crow's nest. The derricks could be stowed in different positions.

One of the best "dummies" we had was a large wooden "donkey-boiler funnel"—a funnel that is frequently seen in a ship either just before or just after the main funnel. In our ship the real donkey funnel was inside the main one, so that our dummy one gave us three disguises—either we had none at all, or else we had one in front of the real funnel, or one behind it. It was naturally a pretty heavy affair and was troublesome getting "fixed." When not in use it was stowed along the boat deck.

I told one distinguished retired Admiral, who commanded a Q-sloop, about our dummy donkey-boiler funnel, and he went one better. He had one made with a slit near the top and just big enough for a man to squeeze inside. The funnel therefore served the double purpose of a disguise and a hiding place for a lookout, who, I believe, was connected with the officer of the watch by a bit of wire attached to his finger, so that as the officer walked up and down the lookout got his finger pulled and couldn't go to sleep!

Another good disguise we had was to make the ship into a "flush deck ship." In the plan it will be seen that there is what is called a "well deck" between the bridge and the forecastle. But by apparently building up the ship's side, which was done by stretching a bit of black canvas across, tautly laced to a wire, this well deck was filled in, and the ship seemed to have a straight deck the whole length. This disguise could only be used in fine weather, owing to the canvas becoming shaky otherwise; but when used it was a great boon to the men, as it gave them an open-air recreation space. It had, however, its dangers. One night when going into harbor, a tug came alongside, and the pilot was just going to step on to what he thought was a deck. Had he done so he would have fallen some 10 ft. Without giving the show away we told him that there was a brew ready for him farther aft.

All the disguises and dummies I have mentioned were assumed in a comparatively short time, sometimes an hour, sometimes a whole night. In addition to these more or less minor disguises we had ready a disguise of a major order, to be used (as it eventually had to be) in the event of an unsuccessful action when we were certain we had been seen. This disguise consisted of turning the vessel into a timber ship. We carried sufficient timber to board up the ship the whole way round; and this, together with a coat of light gray paint, stump masts, and neutral colors, completely altered the class of ship. This disguise was also popular, as the timber was only outboard, so we could do what we liked inside without being seen. We also carried a motor boat on board, which was often more trouble than it was worth. It seldom ran, and on one occasion caught on fire, but it came in very useful for helping with disguises, as it could be stowed in different places, and we had a large crate, suitably marked, made for it to cover it entirely if desired.

It is commonly believed that the crews

of Mystery Ships were specially picked; as a matter of fact, they were drafted in the ordinary way, and as the duty on which we were going was kept very secret, I think the drafting officer thought the men were really going to an ordinary collier. I was certainly not impressed when I first saw my crew. There were fifty-six of them all told. On going through them, I found that not a man had ever steered a ship in his life, though one Irishman told me he could steer well enough with a tiller. This looked rather serious, and I was on my way up to the barracks to see about it when I saw an old man sauntering about with a face like a seaboot, and I casually asked him if he had ever steered a ship. He gave me a look I shall never forget, spat, and asked me if I realized he had been quartermaster on the *Titanic* and was now "by rights" chief quartermaster of the *Olympic*. (He didn't tell me that his chief duty probably was looking after the ladies' deck chairs.) I asked him if he would come on a "stunt." He came and remained with me till the end of the war, as quartermaster and my servant on Mystery Ships, and then as my coxswain on light cruisers. Jack Orr was his name, and I have never met a more typical handy man. He was a brilliant helmsman, and an excellent servant—the sort who puts your morning tea just out of reach, so that you either turn out and get it or go without. Hairdressing, tattooing, and carpentering were among his other qualifications. I never once saw him laugh during the three years he was with me. I tried hard to make him do so, but the most I could get was a faint smile, combined with an agonized face.

Going ashore in "plain clothes" had its advantage as far as naval patrols and restrictions for men in uniform were concerned; yet, at one port to which we went, the men complained that the girls wouldn't walk with them because they were in "civies." One or two were attacked with white feathers, so we got permission to wear the Dockyard Badge in our buttonholes, which said "On War Service." This led to a great deal of amusement at times. On one occasion at Pembroke I was in my "get up," had grown a moustache and no beard, and was wearing my war service badge, commonly known as a "dockyard matey's badge." My own cousin, who happened to be there, didn't recognize me, and being in uniform himself was most indignant and wanted to know who the——I thought I was when I went up to shake hands with him.

I was the only one who had been brought up to "strict Navy," and most of the others rather thought that discipline was associated only with smart uniforms and "spit-and-polish"; while now, here we were all, officers and men alike, in dirty rags, saluting and other marks of respect being conspicuous by their absence. In addition to this, the ship itself had always to look the "dirty old collier." Now it is well known that a dirty man-of-war is seldom if ever an efficient one, so this added to the difficulties, which were overcome by realizing that our upper deck and outer appearance were only part of our disguise, whereas the living spaces and gun houses were our real selves and, therefore, clean. In fact, we combined an outward appearance of slackness with an inner soul of strict discipline.

Although heinous Naval offenses such as "spitting on the deck," putting "dirty fingers on paintwork," and "hanging washed clothes all over the place," were encouraged, yet anything affecting the real fighting efficiency of the ship was dealt with by great severity. The living spaces had also to be kept scrupulously clean, the spitting, etc., only taking place when the crew were lounging about the ship's side for the benefit of any one watching our tramp steamer.

Our "rig" I have already referred to, but it was, I am sure, not appreciated that the "outfit" had to include underclothing. The one thing a sailor likes (or used to) more than anything, is his service flannel; but this had to be barred, as it would never have done for service flannels to be seen hung up to dry, nor for the men in the boats to be seen with them on. Just as the ship was a man-of-war with a mercantile mask on, so the men had to have the heart of a bluejacket with the skin of a merchantman (not that merchantmen didn't always put up a gallant fight when they got a chance).

When going in or out of harbor, the outward appearance had to be natural—no leadsman heaving the lead, no "brass hats" with megaphones, surrounded by buglers and messengers, no groups of men "fallen in" admiring the scenery. All we had was Mr. Mate in his bowler hat and the chippy chap (carpenter) on the fo'c'sle, a few firemen (stokers) lounging about on the well deck, smoking and spitting, a steward or cook with an apron, emptying slops over the side, the Master and one other on the bridge, and some one near our ensign to dip to the White Ensign.

Cruising at sea, the same sort of positions were taken up, except that Mr. Mate would be busy with a few men on whatever was required; if approaching harbor, this would be getting the derricks ready for discharging cargo. We always arranged at sea that the men employed on odd jobs should be men near to their "action stations"—for instance, if a man was required for repairing the bridge screen, he would be a man who belonged to the 6-pdr. crew there. In the early days, Masters still used to take their wives with them, and I, therefore, had one of the men dressed as a woman, who used to sit below the bridge; sometimes he would carry in his arm something to represent a baby.

Having arranged our normal way of cruising, the next thing was to prepare to meet and engage the enemy. Our object was to entice the submarine to come as close as possible to the ship on the surface with her lids open. How was this to be done? Obviously, to encourage him to attack us and then, by feigning to have abandoned the ship to its fate, induce him to come up. To add to the realism, the "abandon ship" was to be done in a "panic," which caused the men who took part to be referred to as the "panic party."

No one was allowed to run to his station—what a disgraceful thing for a man of war!—nor was anything in the way of crowding allowed—though this was dealt with by limiting the number of men on deck. The alarm sent all the guns' crews who were not already there to their guns, and every man to his station, all the movements taking place unseen and underground as it were, by the alleyways and traphatches; obviously, you couldn't have about twenty men running about the deck and disappearing into hencoops! The men to whom I have referred before as lounging about remained in the same attitude of disinterestedness.

The panic party had to be thoroughly drilled and the whole performance rehearsed. All those men who had been hanging about the upper deck rushed to the boats, men also came tumbling out of the fo'c'sle and up from the stokeholds and engine rooms; everything was pandemonium mingled with shouts for help. We did not imagine that the shouts for "help" would be heard from the submarine, especially if she was submerged—but I thought it would add to more realistic acting of the play than a sort of "dumb charade." A rush was made for the boats, and one boat was generally let go "with a run," end up. This happens sometimes even in the best-regulated families.

The officer in charge would come to the bridge and swop hats with me, taking my gold-banded hat and becoming Master. He would be the last to get into the boats, accompanied by a stuffed parrot in its cage. The stuffed parrot was one of our afterthoughts, and we kept it in the saloon in a beautiful green cage. Sailors generally have some pet. Many pets were suggested, but after much discussion in the mess—a parrot won the day. After the boats had shoved off, a grimy stoker would appear from the stokehold, shouting and yelling, and a boat would go back to fetch him. The boats would now lay off the ship to see her finish. The boats contained about thirty men and were rigged as a complete ship's company, with a proportion of officers, seamen, firemen, stewards, and cooks. The ship would now be to all intents deserted, but in reality all the guns would be manned, the chief engineer and his party in the boiler room and engine rooms, the captain and quartermaster on the bridge, and a signalman ready to break out the White Ensign.

The quartermaster, who was always Jack Orr, would lay by the wheel, while the signalman and I were at either end of the bridge looking through little slits specially cut in the wooden screen that went round the bridge. We got very thin at this job, because we had to practice changing places, which necessitated a very careful "belly crawl" from one side of the bridge to the other. This arrangement was necessary, so that I could be in the best position for seeing what was happening, whichever side the submarine might go to. Obviously, the ship being "abandoned," one couldn't get up and walk across the bridge.

While we were in the throes of fitting out, a rumor arose that an enemy agent knew all about our ship and her fitting out. I therefore suggested to the Admiral that a new name should be allocated to the ship, to be kept very secret till we had actually sailed. I also suggested that a rumor should be started ashore that the *Loderer* had sunk. No one on board knew that our name was to be changed. Of course, they knew that when we started out cruising we should sail under different names each day probably, but we had to have a permanent name for Admiralty and dockyard purposes, and for mails.

I arranged to sail at dusk, and just before "slipping" an officer arrived on board in uniform to see the Master. It turned out to be Paymaster Lieutenant Carpmael, an old school pal. I received him of course in my "get up." What absurd situations the war created! I took him to my cabin, where he produced from his pocket a sealed envelope that contained the new name and that was not to be opened till after leaving harbor. Having eventually got rid of our pilot, we sailed—the envelope was opened, and our new name was *Farnborough*.

The whole arrangement of defeating the action of any possible enemy agent worked almost too well, for, in addition to the new appearance of our ship, the change of name and the yarn that the *Loderer* had been sunk, our letters were returned to our families through the dead letter office. This, of course, caused some alarm, but it did not last. As soon as we were outside I told the crew why our name had been changed and that they could write home any pictorial yarn they liked. I was surprised at the wealth of imagination, and the reasons given for our ship now being the *Farnborough*. Some confirmed the rumor that the *Loderer* had been sunk; one fellow described how she had been torpedoed as she was leaving the harbor; another wrote: "I'm fed up with the Navy. I joined *Loderer* last week and now I have been transferred to another ship called *Farnborough*—always getting mucked about and never able to settle down."

At the time we started operations there was practically no submarine activity going on at all in our part of the world. This was a disappointment to all of us, but in reality was a blessing in disguise, as it enabled us to become hardened to the winter gales and to get our ship really efficient. It was known that submarines were on passage from Germany to the Mediterranean, and so we were ordered to "keep the sea" to the westward of Ireland in the hopes of sighting them.

We didn't have to wait long for our first excitement, which might have ended very unpleasantly. We were steaming along as a neutral ship. At night this was done by having, on top of our wheelhouse, an illuminated "sky sign" that spelled out the nationality we were supposed to be. Arrangements were of course made to extinguish it, should we become engaged—but the whole idea of sailing as neutral was to avoid night action. About 10 o'clock we sighted a low-lying vessel on our port bow, steering slowly in the opposite direction to us. After carefully watching her, I came to the conclusion she was a submarine, and put my helm over to ram her. We had no searchlights on board, so gun fire would have been of no use.

On turning to ram, I realized my mistake and saw the object was a patrol sloop. So I returned to my course, but of course the sloop's captain, in his turn, was now suspicious of me, and I was afraid he would open fire. He turned and closed me and signaled "What ship?" I gave our assumed name and added, "Helm jammed." Our name happened to resemble a word chiefly used among sailors; he probably thought I was now trying to insult him as well as having tried to ram him, and he kept following me on my quarter and asking "What ship?"—always with the same reply. It was not till I had got a secret wireless signal through to him that he left me alone.

GOING TO STATIONS

Mr. Mate on the fo'c'sle in his bowler hat, and Chippy, the carpenter, in slovenly dress, would hardly be mistaken for fighting men.

We did everything we could to try to get contact. Each day we plotted carefully all the reports received to try to see whether the enemy worked on any "system," but apparently (except that they sometimes seemed to be working in pairs) each captain of a submarine had his own system. There were one or two places that they all seemed to make for, such as the principal lighthouses. This was possibly to check their positions for navigational purposes. It appeared to be something to go on, and we frequently made for such lighthouses, so as to be off them at daybreak. We also tried stopping and being "not under control" or "disabled."

One night we heard two submarines talking to each other, and they appeared to be fairly close. We thought to encourage them by making *en clair* wireless signals to our "owners" at Liverpool—such as, "Have been delayed by weather. Am now in Latitude—, Longitude—. Expect to arrive Liverpool 6 A.M. Friday." I would then change my tune and answer myself, saying "Your message received." By this means we hoped to convey to the submarine where we were and what course we should be steering. It never came off. Possibly she was not listening on our wave length.

After a few weeks of trying to secure a meeting with the enemy, we got news of one coming down the west Irish coast and, guessing that she would probably try to sight one of the lights at the southwestern corner before starting on her career of destruction in the Channel or in the Bay of Biscay, we set our course accordingly for the next two days. I always had in mind that it would be an additional help to our side to get a submarine before she started her career of sinkings, as thereby many additional tons of valuable shipping and many valuable lives would be saved. Daylight on March 22, 1916, found us steering up the west coast at eight knots, representing a collier flying no colors, bound for the north, and keeping just at the extreme submarine visibility range from the coast.

At 6:40 A.M. the port lookout reported a suspicious object on the horizon on the port bow, about five miles distant. A quick look with glasses disclosed the fact that it was a submarine awash. It was barely daylight, and a small object so far away is very deceptive and might easily be a small fishing craft, especially as submarines frequently disguised themselves as sailing craft by putting up masts and sails; but after watching carefully for a few minutes the submarine submerged, leaving no doubt as to what the object was. Our position was latitude 57° 56′ 30″ N., longitude 10° 53′ 45″ W.

There was nothing to do except steam quietly on, the men having already gone to their "action" stations at the first report of a "suspicious object." The submarine, on her part, would naturally expect that she had sighted us (a fairly big object with smoke) before we had seen her; so, if we wished to be attacked, no attempt must be made to escape—in fact, we had to pretend we hadn't seen her. This was a fairly easy matter for the next twenty minutes, though it was rather a novel sensation to us all when we realized that practically for certain in a short time we should be attacked by an invisible enemy and perhaps blown sky high without the chance of a shot in reply. I think the most apt expression I have seen applied to this sort of game is: "live human bait." It seemed strange also to think that although we made no alteration of course or speed, yet we were really the attackers, simulated ignorance, and eventually defense, in order to make our offense.

So, with the guns loaded, their crews concealed beside them, the man on the bridge watching for the next move of the enemy, and the disinterested crew of this "tramp" lounging about chatting and smoking, we waited, wondering whether we should be attacked by gun or by torpedo. The wait may not have been very long by the clock, but it was terribly long to those on board. The answer came at seven o'clock, when the track of a torpedo was seen approaching, which we made no attempt to avoid. It was fired from our starboard quarter, a bad position from the submarine point of view. The bubbles of the track passed under the forecastle, which meant that the torpedo had just missed us ahead.

We, therefore, maintained our course and took no outward notice, as a tramp steamer (at that time) could not be expected to know what a torpedo track looked like, and in any case the "lookouts" would be neither numerous nor very bright at that hour of the morning. We could have escaped with ease, if we had been an ordinary steamer, by putting our stern toward the submarine and steaming off at full speed. She might have opened fire with her gun, but under the weather conditions prevailing the steamer would have got away.

To the men concealed at the guns and elsewhere this was the first great test of the discipline and drill we had been training for, as it was obvious that the submarine might fire another torpedo—perhaps successfully. All remained quiet, and the men lounging about continued to smoke their pipes. One young seaman was whistling at his gun, because, as he explained when asked what he was doing, "if he didn't whistle he would get scared." A few minutes after the torpedo had missed us, the submarine came to the surface astern of the ship and steamed up on our port side. As she came up, her gun was manned and she fired a shot across our bows as a signal to stop. After firing her shot she closed down and partly submerged again, obviously ready to dive in a few seconds if we attempted to ram.

Meantime, we had proceeded with our pantomime as prearranged, and, as soon as the shot fell, the engines were stopped, steam was blown off, and the panic party got busy. Their methods have already been described, and they entered into the spirit of it with more zeal than ever—a great scrambling for the boats took place, which apparently satisfied the submarine as to our honesty, for she came right on the surface again and closed toward the ship—this before we had even begun to lower the boats. I was still rushing about the bridge and had not yet been relieved of my cap by the navigator.

The submarine was evidently in a hurry to get on with the business and go after another prey, as she fired a shot at us that fell just short of the magazine, a matter of a few feet. She was now about 800 yds. off, showing full length, and, although the range was a little bit greater than I wished, the time had come to open fire before she might touch off our magazines. I blew my whistle. At this signal the White Ensign flew at the masthead, the wheel house and side ports came down with a clatter, the hencoop collapsed; and in a matter of seconds three 12-pdr. guns, the Maxim, and rifles were firing as hard as they could. The submarine had been successfully decoyed to a suitable position on the surface with her lid open and gun manned.

Everything now depended on the accuracy of the fire; but the target was a comparatively small one and we had no range-finders to help us, so that the distance of the target was reckoned by eye. The fire was accurate, and before the submarine could get closed down again we had hit her several times. Then she slowly submerged. In all, twenty-one rounds were fired from the three 12-pdrs., one gun getting off thirteen rounds. The Maxim and rifles wasted no time in getting off some two hundred rounds at the personnel on the deck of the submarine, who were manning the gun, but who rapidly sought shelter inside the submarine.

As soon as she had submerged and there was nothing more to fire at, we steamed at full speed to the spot where she had gone down, for at the moment there was nothing actually to show whether she had been destroyed or not, although we knew we had hit her, as she had closed her conning tower before diving. Two depth charges were therefore dropped, and almost simultaneously the submarine, that had obviously been trying to rise, came up nearly perpendicular, touching our bottom as it did so. We were still steaming ahead when the submarine passed down our side a few yards off, and it could now be seen that in addition to a periscope having been shot there was a big rent in the bows. Our after-gun was leaving nothing to chance and put a few more rounds in at point-blank range. A couple more depth charges were released, and the surface of the sea became covered with oil and small pieces of wood—but there was no living soul.

This boat, it was ascertained afterward, was *U-68*, and by destroying her before she got to her hunting ground we must have been the means of saving a large amount of shipping. The great feeling of rejoicing and relief to all on board showed itself when the whole crew rushed to the bridge and cheered. This might appear as a relaxation of discipline, but it was really a strengthening of it. When all were present I read the "Prayer of Thanksgiving for Victory" from the Book of Common Prayer, followed by three cheers for the King, and then all went back to "cruising stations," but not before one of the wags had produced the phonograph and put on the record, "Down Among the Dead Men Let Him Lie."

This success had a good effect for the decoy ships in general, as it had been many months since a submarine had been sunk, but we on board little thought that it would be nearly a year before we had another successful action, and that though the game was difficult already, it was to become more so.

Our immediate thoughts were to stay at sea and look for another U-boat, but the Commander-in-Chief wished us to return to Queenstown. We arrived at 7 A. M., and the Admiral's barge came alongside with a personal letter of congratulations as well as some newly laid eggs, which I had no doubt Miss Voysey, the Admiral's niece, had been out to collect for me. These small acts of thoughtfulness on the part of a busy Admiral and a busier niece were what helped to make Queenstown what it was not only to us but also to the Americans when they came over. At 9 A. M. I saw the Commander-in-Chief and got the usual question, "When will you be ready for sea?" I gave our usual reply, and we sailed again at noon, but not before he had come on board and talked to the whole crew, telling them how he appreciated the way they had stuck all the winter gales, how our success was due to good discipline and training, and that had one man made a mistake the action would have been a failure. It wasn't often that the Admiral made speeches, so we were pleased and proud. I think one of the things that pleased the Admiral was that my signals reporting the action had arrived while he was having his breakfast, and he said they were as good as a morning paper. They were brief but contained all that was necessary. They ran as follows:

"From *Farnborough*.

"6:40. Hull of submarine seen. Position, Latitude 57° 56′ 30″ N. Longitude 10° 53′ 45″W.

"7.05. Ship being fired at by submarine.

"7.45. Have sunk enemy submarine.

"8.10. Shall I return to report or look for another?"

Reply from the Commander-in-Chief, Queenstown:

"Very well done. Please return to Queenstown."

To outsiders it may have appeared that we had earned a little rest and perhaps leave, but we had great confidence in our Commander-in-Chief, who knew that the "pat on the back" and off to sea again was all we wished as long as submarines were about.

About a week later, while we were at sea, a message was received from the Commander-in-Chief, ordering us to call in at Queenstown next time we were passing. We happened to be fairly close at the time, so I made for the port. Admiral Bayly was in his barge in the Outer Roads, and hailed me to go up harbor to a buoy and said he would be coming on board. Miss Voysey was with him and I regretted she would not be allowed on board, but one of the strictest Queenstown orders was that no women were allowed on board any ships in war time. (I had to break it once when I picked up two feminine survivors.) I proceeded to the buoy, but we had some difficulty in securing, owing to the cable getting jammed.

Meantime, the Admiral came on board accompanied by his flag captain—he had never done such a thing before, and I scented "trouble" of some sort. He ordered me to have all the crew mustered and we walked about while waiting for the crew to be collected. There was some delay, since Mr. Mate and his hands were still working on the forecastle. The Admiral was getting impatient, the flag captain was beginning to scowl, so, having already made up my mind that a "storm" was brewing, I went forward myself and told Beswick to bring every one along and finish securing later. We were riding to the buoy with only one wire, and an ebb tide was running, so that it was a bit of a risk—quite unjustifiable—but I hoped that with luck the wire would hold.

The Admiral now came to the mess deck and instead of any "strafing" he read to us all assembled a letter from the Admiralty in which they conveyed their high commendation of our recent action, which they thought was owing to thorough organization and good nerve, and stated that all concerned deserved great credit. They had promoted me to the rank of Commander, and awarded several advancements to some ratings. In addition to this, £1,000 was awarded the ship, to be divided in various proportions to all on board except commissioned officers of the Royal Navy (the only person being affected was myself). Further, the Admiral read out rewards that had been bestowed on various officers and men by H. M. the King.

As he was leaving the mess deck I heard a "report" and knew at once that our wire had parted. Imagine my thoughts! Here I had just received my "brass hat," and the first thing to happen was to have my ship—an awkward one at that—adrift in the harbor, for reasons that would have to be given as lack of seamanlike precautions. I pretended I did not know what had happened and, having winked my eye to Beswick and the Chief, who rushed to their respective duty on the forecastle and engine room, I escorted the Admiral, with such calmness as I could muster, to the gangway. The usual exchange of "When will you be ready for sea?" "Ready now, sir," having taken place, I rushed to the bridge and put the engine room telegraph "full ahead" and, with what sailors generally call "God's help and a fair wind," I was able to get hold of the buoy again—but it was a very narrow squeak.

The Admiral, when he shoved off, noticed that the wire had parted, and hailed me to know if I wanted a tug; I should have loved one, but lies came so readily to my tongue in those days that I said: "No, thank you, sir, everything is quite all right, as we have a second wire on." I don't suppose he believed me, but he said nothing.

We went to sea again on the flood tide the next morning, thoroughly pleased with ourselves and the world.

Photograph by H. S. Graves. Courtesy U. S. Forest Service

ON THE COPPER RIVER IN THE CHUGACH NATIONAL FOREST, ALASKA

Alaska—Uncle Sam's Coming Paper Factory

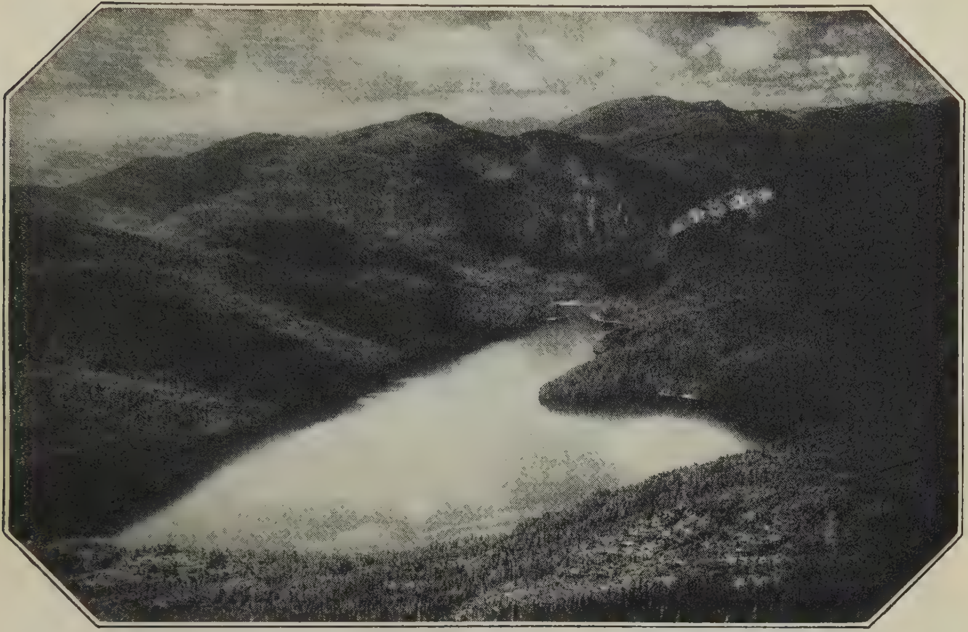
The Part Her Newsprint Plays in the Paper Age

W. B. GREELEY
FORMER CHIEF, UNITED STATES FOREST SERVICE

THE TURMOIL over conservation in Alaska was largely ended by President Harding's visit in 1923. Leaving his boat after a three weeks' cruise of the Territory and standing in the huge stadium at Seattle, but a few days before his death, the late President said:

"I must confess that I journeyed to Alaska with the impression that our forest conservation was too drastic. . . . Frankly, I had a wrong impression. . . . I have alluded to the threatened destruction of the fisheries, due to admitted lack of regulation and protection. We have begun on the safe plan with the forests, even though we may have erred in excessive restrictions. With the lesson of forest destruction painfully learned, with the nation-wide call for reforestation throughout the states, which will require generations and vast painstaking, it has been sought to provide for the utilization of the Alaskan forests and at the same time provide for their perpetuation through reproduction."

Since President Harding's verdict was rendered, we have heard little of "swaddling clothes" and "padlocks" on the natural resources of Alaska. Efforts to overturn the administration of national forests or coal lands or water powers have largely ceased. But a new note of criticism has been struck. What, after all, is Alaska worth? Easterners, returning from summer trips in Alaska, question Federal expenditures for building roads and providing boats and maintaining numerous officials. They have seen only a great frontier, thinly peopled. They have brought back



UNCLE SAM'S HEMLOCK AND SPRUCE IN THE TONGASS NATIONAL FOREST

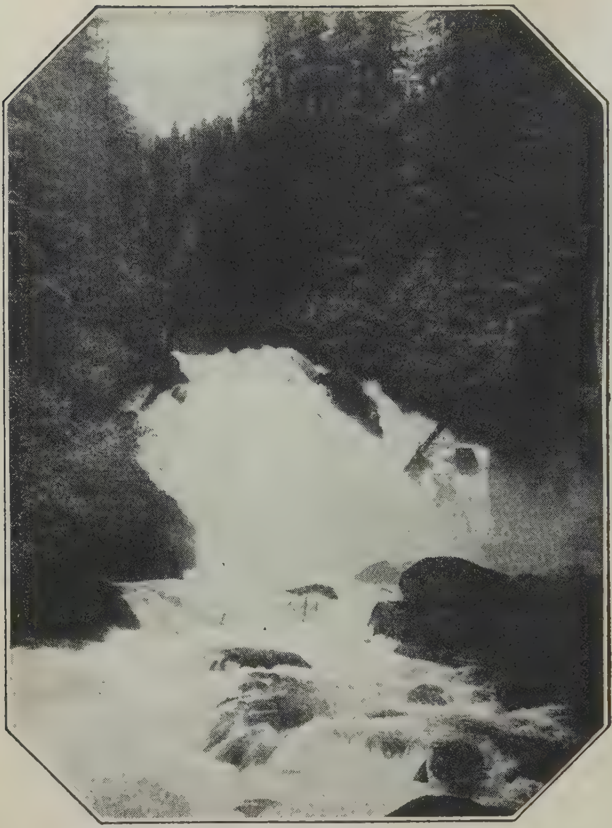
This airplane view shows both the paper-making potentialities of the Alaskan Panhandle and the great natural glacier-fed storage reservoirs for water power.

the impression that Uncle Sam has a white elephant on his hands. They want to see the balance sheet. What returns are we getting from the efforts of the government to develop this wilderness?

It would not be difficult to justify the dollars spent in Alaska. She has much more than paid back in minerals, fisheries, furs, and lumber. But a fresh and still more effective answer, both to the old critics of conservation and to the new critics of Federal expenditures, is promised in the establishment of great paper plants in our northern territory. This chapter in the story of Alaska will be much more than a justification of our national policy and expenditures, even more than the coming of the industry that will make Alaska a state. It will be the first time in the history of the United States that a great forest region is developed from the start on timber as a *crop* rather than timber as a *mine*, where the permanency of large forest industries is assured by the continuous replacement of their raw material.

Alaska, like almost every frontier region, has seen ups and downs. She has passed through the gold rush period. Parts of the Territory have lost population with the exhaustion of the rich and cheaply worked placers, just as the old diggings of California and Idaho in their turn were abandoned. Several of her large and well-developed quartz mines have not panned out. The utilization of her coal deposits has been disappointing. Her agriculture at best is limited, and is now at a standstill, waiting for more mouths to feed at home. Her mining industries will always be important; but few regions attain stability in economic growth and population and reach the stature of states on mineral wealth alone. Alaska is no exception. Her economic future rests more largely upon her permanent and renewable resources—her fisheries, forests, and water powers.

Any one who has cruised the coast of southern Alaska is impressed by its similarity to Norway and parts of Sweden. There is a network of interlacing waterways and navigable channels running inland. What with islands, bays, and inlets, the Tongass National Forest, covering the panhandle of Alaska, boasts more than 10,000 miles



ONE OF THE BEST TONGASS WATER-POWER SITES
Cascade Creek, draining a 614-acre mountain lake, falls 1,400 ft. in three miles to tidewater at St. Thomas Bay. The last drop, pictured above, is 60 ft.

of shore line. These thousands of miles of coast and the steep slopes above them are almost uniformly covered with dense forests of hemlock and spruce. Above them rise bald ridges, snow pockets, and glaciers. Waterfalls break through the ribbon of coastal forest at many points, and their turbulent streams are usually the outlets of glacial-formed lakes tucked away in the mountains.

It is a wet country, with a yearly precipitation along the coast of the panhandle of from 80 to 160 ins.; and the luxuriance of the forests and the volume of the streams show it. It is a country of mild winters, with mean temperatures only a little lower than those of Puget Sound. The snow-bound, dog-sled, Eskimo picture of Alaska in the minds of many Americans is wide of the mark on the southeastern coast, bathed by the warm waters of the Japanese Current.

And nature has marked this picturesque stretch of coast as the seat of great forest industries. It offers 80,000,000,000 ft. of coniferous timber, all within a few miles of a marvelous network of sheltered sea channels. This vast forest resource includes at least 100,000,000 cords of paper-making woods. Water power is there, in streams cascading directly into the sea from "hanging" lakes and other natural storage reservoirs, to the extent of at least 400,000 horsepower. And many bays and roadsteads offer manufacturing sites within a stone's throw of both timber and power—sites where ocean carriers of any draft may load and whence their cargoes may be shipped direct to San Francisco or Los Angeles or through the Panama Canal to New York and Baltimore.

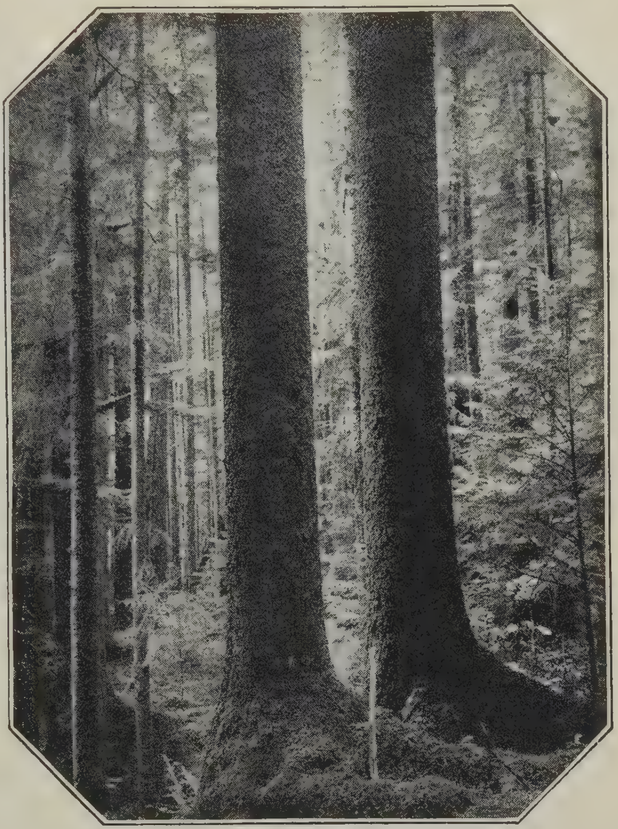
What is Alaska worth? Aside from the gold and copper, the salmon and halibut, the furs and lumber, Alaska is worth 100,000,000 tons of newsprint, or $5,000,000,000 in paper as it is loaded into ships from the manufacturing plants. To put it in other terms, she is worth 1,000,000 tons of newsprint delivered to the presses of the United States *every year for all time to come.* Doubtless there was little thought of paper when "Seward's icebox" was acquired. But Alaska's papermaking resources alone would have been warrant for Seward's purchase many times over.

Nature has bestowed these treasures—timber and water power and sea lanes—upon Alaska; but they have been locked up to a large extent by the stern facts of geography and trade. Alaska is a long way up yonder. Her nearest pulpwood forests lie from 600 to 1,000 miles northwest from

Seattle. The paper industry has been developed mainly in our northeastern forest regions, from Maine westward to Minnesota, and has spread out from these centers, naturally enough, into the great forest areas adjacent in Canada.

The large investments of capital required in paper mills and power developments have made this industry much less nomadic than its sister, the lumber sawmill, which has pulled up its stakes and trekked blithely southward or westward as the areas of virgin forest contracted. Eastern paper plants are now drawing in raw wood from distances up to a thousand miles, and import annually more than a million cords of pulpwood from Canada.

While there has been a prodigious growth in the manufacture of paper in North America during the last twenty years, it has taken place mainly on the eastern side of the continent. The industry has become established on our Pacific coast, and several large plants have been built in western British Columbia. But Alaska is still farther away, and the rapid expansion of the industry in nearer regions has fully supplied all that the printing presses required.



Photograph by Langille & Sternberg, Courtesy U. S. Forest Service

BIG SPRUCE READY FOR THE LOGGER

During the World War the big spruce in Alaska's coastal forests furnished much high-grade timber for airplane manufacture.

For a dozen years the Forest Service sought diligently but unsuccessfully to interest paper manufacturers in Alaska. At last, however, Alaska appears in a fair way to come into her own. Following wide advertisement and competitive bids, the government has awarded to paper manufacturers two large blocks of coastal forest with their adjacent groups of water-power sites, and there is good prospect that newsprint mills will shortly be built.

It may be remarked in passing that Uncle Sam is indeed fortunate to have this new paper factory at hand to supply his needs. Our illustrious uncle has a hunger for paper, and still more paper, past all comprehension. The *per capita* use of paper in the United States is to-day more than five times what it was forty years ago. This may be an index of social and commercial progress. Readers of some of our 5-lb. Sunday editions may take exception; but if you want to rate the nations of the earth by their relative use of paper you will find China at the bottom, with a yearly consumption of less than ½ lb. *per capita*, and the United States at the top with a yearly requirement of more than 180 lbs. for every man, woman, and child in our borders.

Between these extremes come Russia, using about 6 lbs. annually, Japan with about 11 lbs., Sweden and Norway with about 30 lbs., and Germany with 44 lbs. Our nearest competitor, Great Britain, uses less than half the amount of paper *per capita* that we consume in the United States. It is a far cry from the days of the Revolution, when officers of the Continental Army could not get enough paper for writing out their orders.

Of course, the more than ten and a half millions tons of paper consumed every year in the United States—more than half of all the paper used by the world—supplies many requirements aside from those of the printing press. We use paper boxes and cartons of many sorts, paper plates and spoons, and fiber boards for all manner of construction. We have paper rugs underfoot and wall paper overhead. We wear socks and neckties made from spruce pulp. A New England firm is manufacturing even underground piping for electrical conduits from paper pulp. There is some new paper product every day. You might almost say that we are living in a paper age.

The race of the paper mills to keep pace with expanding consumption is rapidly exhausting the cheap timber available to the old manufacturing centers. The same race, at a constantly heightened pace, is now taking our paper plants far afield into the cheap timber of Canada, and Uncle Sam is becoming more and more dependent upon foreign sources of supply. Wood pulp production was reported for the first time in 1869. Between that year and 1925, the manufacture of paper in the United States increased twenty-four times, while its consumption increased twenty-seven times. American paper mills were unable to hold their own against the tremendous growth in consumption, and the value of paper imports was multiplied nearly ninety-eight times.

No later than 1899, 83 per cent. of the wood from which our paper was made came from American forests, while to-day American forests furnish less than half of it. In 1922, we consumed 2,451,000 tons of newspaper alone, nearly five times as much as in 1899—and only one third of it came from the forests of the United States. The actual consumption in 1926, according to the News Print Service Bureau of New York, was 3,400,000 tons, an increase of more than one third in the space of four years.

Into this consumption, reports the Bureau, went practically all of the newsprint manufactured in the United States, 49 per cent. of the Newfoundland production, 88 per cent. of the Canadian production, and 102,000 tons of newsprint from overseas. It maintained a circulation of more than 36,000,000 copies of daily newspapers published in English and more than 24,000,000 copies of Sunday issues. And it represented 56 per cent. of the newsprint used in the entire world.

So Uncle Sam is truly fortunate in having the paper woods of Alaska available. We should not remain permanently dependent upon foreign sources for so large a part of so vast a national necessity. All the world is using more paper; and all the world is cutting its coniferous forests, from which paper is chiefly made, faster than the forests are being regrown. A paper factory, capable of turning out a million tons of newsprint yearly for all time to come, snugly tucked away on American soil and owned by the American public, is not to be sneezed at. Alaska is bound, sooner or later, to play her part, and a prominent one, in our paper economy.

Of course, a long road must be traveled before our paper industry and our sources of paper supply settle down to a basis of genuine stability. The reforestation of millions of acres of cut-over and idle land in the old regional paper factories of the East is a vital part of it. The use of waste from other forest industries for making paper, as Sweden does, will have much to do with it. A widening field of raw material, with new woods and new processes, will contribute its share. Hardwoods are already used for magazine and book paper and doubtless will come into use for newsprint. We may expect the chemist to find out how to make white paper from the resinous pines of the South. We may expect other vegetable fibers to relieve somewhat the drain upon our forests.

But all such things take time, and mean-

SURVEYING UNCLE SAM'S LUMBER HOLDINGS
A government survey plane at work mapping the Alaskan Panhandle. The story of this adventurous naval assignment was told in the WORLD'S WORK for February, 1927.

while our paper appetite demands hundreds of thousands more tons every year. It is obvious that an immediate and practical step toward greater stability in the paper industry and less dependence upon foreign sources is a better geographical distribution of our paper mills. They must utilize the large volumes of raw material available in the coniferous forests of the West. "Westward, ho!" has been the slogan of our sawmills these last twenty years, and the paper plant inevitably must follow the trail that the mills have blazed.

The western quest for pulp timber will enlarge the paper industry already established on Puget Sound and the Columbia River. It will extend the industry into the northern Rocky Mountains and into the vast forests of Oregon. And while Alaska may seem to stand at the end of the trail, her special advantages cannot fail to invite the paper manufacturer to develop her water powers and harvest her forests in no great lapse of time. Alaska has been so peculiarly a national institution and has stood on the firing line of so many controversies that the manner of developing and utilizing Uncle Sam's pulp timber estates may be of more than passing interest.

In many ways the prospective conversion of Alaska's virgin forests into newsprint paper will stand out as a significant chapter in the story of forest conservation. Every other large forest region in the United States has been exploited mainly through private ownership of timber and land.

America's virgin stumpage has been cut off just as fast, indeed often faster, than it could profitably be manufactured and merchandised. The logged-off land has been counted as no asset to forest industries, or as a residual asset only, to be junked like an abandoned sawmill. It has been a case of mining out the visible resources at hand and then passing on to fresh fields. With a few exceptions in the northeastern states, there has been no real stability or permanency in our large forest industries. Our older forest regions have witnessed three or four hectic decades of logging, followed by the passing on of the camps and mills and the leaving of an immense residue of largely wrecked and unproductive land.

These conditions are slowly changing

as we approach a new economic order in which all of our timber must be grown, and forestry becomes as essential to the operator in wood as manufacture or merchandising. But such, in the main, has been the history of our forest industries, and the staggering task of forest restoration now confronting us is its heritage.

In Alaska we are entering our last great virgin forest region. But we are entering it with a new and better plan, a plan made possible because the public owns the timber and the water powers. In Alaska we can eat our cake, in reasonable mouthfuls, and still have it. The speed at which her forests are logged will be governed from the start, not by the present harvest of usable timber or the quest of industrial capital for new investment, but by the volume of the timber crops that can be grown. The size and number of her mills will be controlled by the growing power of her forest lands.

The starting point in drafting the contracts now offered to paper manufacturers is the question: What will the land produce in pulpwood? This principle is binding alike upon the operator and the government, upon the operator in the scale of his manufacturing enterprise and upon the government in the extent of the sales of timber that may be made. With this principle nailed down, and reforestation provided by government control of cutting methods, the Alaskan paper mills are assured a perpetual supply of raw material. Timber growth is the keystone, and the arch that it holds in place is the permanency of forest-using industries, of the communities around them, and of Alaska's economic development.

This is not a beautiful theory; it is a practical and workable proposition. The Tongass National Forest in the Alaskan Panhandle has been divided into pulp timber allotments. Each contains a million acres of forest, more or less, grouped around the water-power sites most logically situated for the manufacture of paper. A period of eighty-five years has been allowed for reforestation. The growing capacity of each allotment has been conservatively determined. Through the joint action of the Forest Service and the Federal Power Commission, the timber and water powers are offered together to the paper manufacturer who submits the most advantageous terms, the timber in quantities sufficient to supply the manufacturing capacity of the power site for a period of fifty years. The powers are secured under a Federal license, also running for fifty years.

The maximum drain upon the forest under each contract is fixed. When the new paper machines have reached an annual output of approximately one million tons, further sales will be made only as old contracts are cut out. Unless our calculations of forest growth are grossly awry, the industry will be permanently stabilized at about that point. And in laying out this program, ample timber reservations have been made for the local needs of Alaska and for the requirements of her growing lumber industry.

The Alaskan plan rests upon a partnership between the public and the paper manufacturer. It is a partnership that must be conceived on sound and mutually advantageous lines, for it should run with the life of the nation. The public owns the forests and the water powers. The paper manufacturer is the agent who must put them to beneficial use. The paper mills required for Alaska's development must be large plants, with daily capacities running up to 500 tons. Each of them will require an investment of not less than $10,000,000. The security afforded must be in proportion to the investment of private capital. Hence, contracts of long duration and conveying cutting rights on large areas of forest are essential. We should have no Alaskan newsprint without them.

Alaskan timber is very cheap. It must be cheap for years to come if paper is to be made there and the growth of her forests utilized rather than permitted to rot on the ground. But the value of Alaskan pulpwood will enhance, in time, and the public who own it should receive what it is fairly worth. So provision is made for a readjustment of the stumpage rates from time to time. And at all times public agencies will control the methods of logging, to the end that the cuttings will reforest, and the permanency of both the natural resource and the industry will be assured.

There is no danger of a paper monopoly in Alaska. There is room and resource on her thousands of miles of coast for six or eight of the largest paper mills that the industry has yet produced. There is no danger of inside deals. Every offering is advertised widely for competitive bids, with full opportunity for advance examination of timber and water powers. It is a simple, straightforward form of partnership between the public and industry, developed and tested by twenty years' experience in the administration of the National Forests.

For all our miles of railroad and our unmitigated miles of highway, we are constantly gaining fresh conceptions of the bigness of the West, and of the range and vastness of her offerings to the American people. Think of the things that Kit Carson and Jim Bridger and John C. Fremont never dreamed of—the fruit industries of California, the Shoshone and Roosevelt reservoirs, the Zion National Park, the sequoias, the wealth of natural lore, the absorbing interest of ancient races, the appeal of the very deserts themselves!

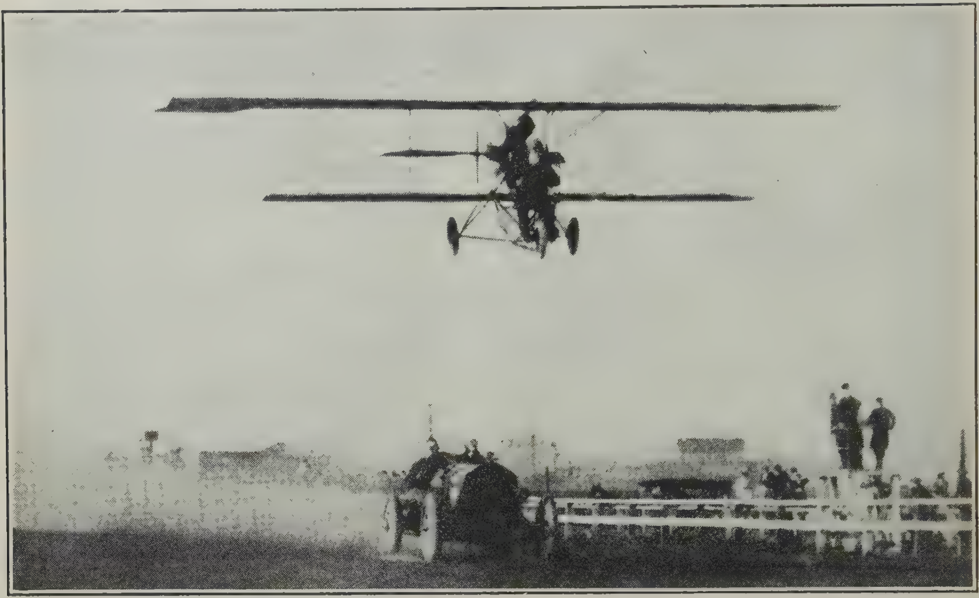
But we are still far from conceiving the bigness of Alaska. A few people have cruised along her most accessible coasts in comfortable steamers and returned triumphant with sealskin moccasins and walrus tusks carved into cribbage boards. It is time that we knew Alaska's coastal forests and waterfalls, not in terms of print paper, but of sheer beauty.

It is time no less that we knew and appreciated her empire of interior forests. Norway and Finland are making use of just such forests to-day, and so must we in Alaska at no distant time. It is time we knew the great ice caps and the seal herds and the bands of caribou that rove the interior uplands as the buffalo roved over the Great Plains. It is time we knew the great inland valleys of Alaska with their wealth of summer bloom and their vast stretches of fertile soil, her native peoples, and her lore of natural history.

Alaska stands to-day where the Western states stood a few decades ago, offering the nation economic and spiritual resources that are but dimly comprehended. She is a great national asset in many more ways than paper and copper and salmon. The better we know her, the greater will be our pride of possession and our sympathetic understanding of her needs and aspirations.

ALASKA'S SOUTHERN COAST—A PANORAMA OF FORESTS AND MOUNTAINS

Knights of the Air



By LESTER J. MAITLAND

LIEUTENANT, ARMY AIR CORPS

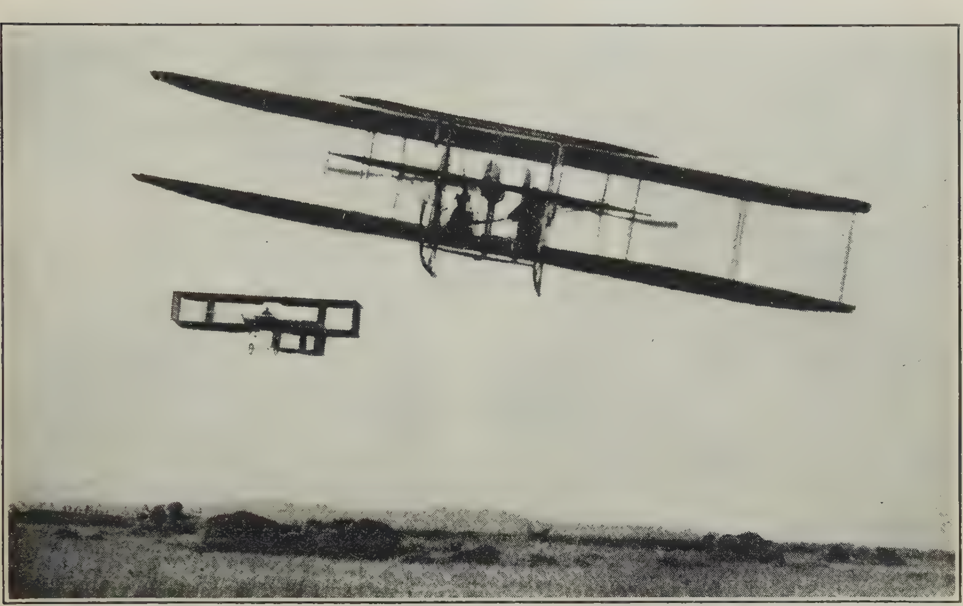
> Whirl of tangled strings,
> Broken braces and broken springs,
> Broken tail and broken wings,
> Shooting stars, and various things.
> —J. T. Trowbridge: "Darius Green."

THE YEARS from 1909 until the thunderbolts of war scattered world peace were hectic ones in aviation. For centuries man dreamed of the day when he would fly, and when flight finally came he turned the airplane into a dangerous toy. The public's demands for thrills transformed flying fields into gory arenas above which pilots pitted themselves against death—and death usually won. Aside from the limited number of persons who foresaw the really great future of flight, only a few gave thought in those early days to the vast possibilities of the airplane, and even among these few the predominating trend was to shape the plane into a new and deadly engine of war.

The immediate effect of the sensational flights by the Wrights and Curtiss, in 1908 and 1909, was the production of planes to be used for two purposes—one military, a development to be dealt with in another article; the other exhibition flying, a phase of aviation that sprang from public eagerness to see airplanes in flight and that did not end until a thrill-sated America realized with horror the terrific price of life that had been paid for its amusement. The stark drama, deep pathos, grim humor, brilliant attainment, futile efforts, lofty heroism, and low comedy that mark those early years distinguish them as a period that, for sheer compelling interest, stands absolutely unequalled in aviation history.

Cities fought for aviation meets; gold and glory—and death—awaited daring exhibition pilots; inventors who knew nothing whatever about aviation filed patents on airplanes that never would fly; tons of paper and barrels of ink were used by newspapers and periodicals in printing aviation news; wildcat promoters

The First American Skylarks



©Paul Thompson

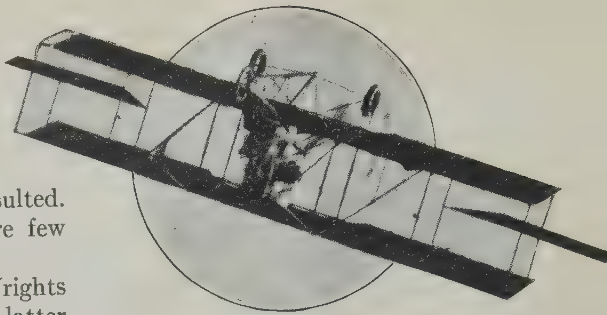
AIR RACES IN THE HECTIC YEARS OF AVIATION

A Wright machine in the picture above is leading in the race with a Paulhan. On the opposite page is pictured the sensational race staged by Lincoln Beachey and Barney Oldfield at Emeryville, California, in 1912.

lured the gullible with airplane gold bricks; legislatures considered laws that would regulate flying; hotels planned airplane "garages" on their roofs; leaders of fashion wore aviation clothes; authors wove planes into fiction plots; playwrights put them on the stage; thousands lauded aircraft as a boon to mankind, while a few regarded it as a pestilential nuisance or as an evil gift from the Furies.

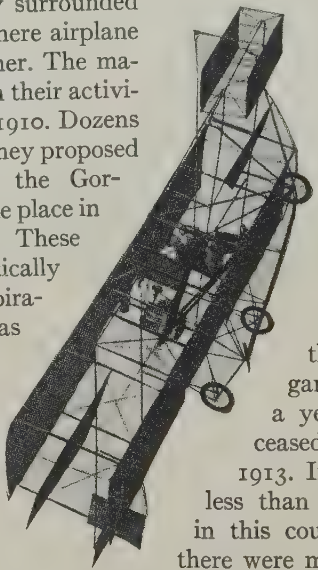
Against this vivid background of hectic activity and emotional hubbub stands the group of colorful men and women who, with but few exceptions, flew up the ladder of fame with paralyzing speed, only to plunge as rapidly into the abyss of oblivion. Young and brave were most of those who took part in the great gold rush among the clouds from 1910 to 1914—the Klondike years of aviation. Some are still alive, some died a natural death, but most of them flew with lifeless hands on twisted controls to the Happy Landing Grounds. They died with their helmets on. Little more than a decade separates us from those hectic years, and yet it seems as if the story that period contains is so remote that it might have been woven by the thread from which a saga is spun.

No sooner did the Wrights and Curtiss step into the limelight than persons in all walks of life suddenly discovered that they, too, had contributions to make to human flight. The village blacksmith beneath his spreading chestnut tree, the merchant in his store, the farmer in his field, the convict in his cell—all had plans for aircraft that would make them rich and famous. Patent lawyers grew opulent and obese on fat fees garnered from "inventors" who thought their ideas valuable. The files of the Patent Office are clogged with descriptions of flying contrivances that are as varied as they are weird, and that got no farther than the musty files in government archives. Others, aided by more or less accurate descriptions of designs, built copies of Wright, Curtiss,



or other machines, bought cheap and useless "airplane" motors, which soon flooded the market, and took up aviation. Most of these flyers flew only once. Broken planes or broken bones or broken necks — frequently all three — resulted. However, on the whole, there were few casualties among these aviators.

The patent action started by the Wrights against Curtiss, almost as soon as the latter had demonstrated his machine, led many would-be airplane inventors to work in profound secrecy. There were heavy bolts on many sheds, and mystery surrounded countless attics and cellars where airplane models were being put together. The majority of these inventors began their activities late in 1909 and early in 1910. Dozens of them let it be known that they proposed to enter their machines in the Gordon Bennett Cup races to take place in America in the fall of 1910. These misguided souls were pathetically earnest, but while their aspirations were strong, their ideas were weak.



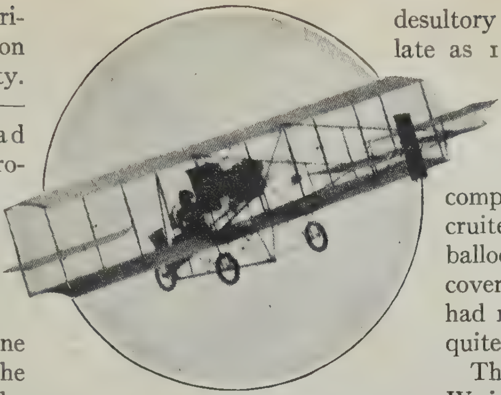
Legislatures began to tinker with aviation laws of various sorts as early as 1910, and with such confusing results that demands even then were voiced for uniform aviation statutes—a policy now being vigorously pursued by the Department of Commerce. Typical of the difference of opinion as to safe flying altitudes between then and now was a bill considered by the Missouri Solons in 1910. It declared that any aviator who flew above 1,000 ft. was guilty of attempted suicide and should be punished accordingly. To-day a pilot who flies over a city at less than 2,000 ft. runs the risk of having his wings clipped.

© Underwood & Underwood

The early flyers flew low—only a few feet above the ground—a reason for the absence of casualties until the death of Lieutenant Selfridge. Also, they flew only when the air was quiet. Their practice was to drop pieces of paper to gauge the strength of the wind. These precautions ended when the exhibition flyers entered upon the scene—they flew irrespective of wind, weather, or warning.

The exhibition period—the hectic stage of flight—began in 1910, reached its climax a year later, and had virtually ceased to exist by the close of 1913. In the fall of 1909, there were less than half a dozen civilian pilots in this country. Twelve months later there were more than three dozen. Some of these flyers were self-taught and held no licenses, but most of them were products of the schools like those of the Wright brothers or Glenn Curtiss.

The remarkable records established by these three leaders in aviation turned the eyes of the world to America, which at that time held undisputed leadership in the air. From all corners of the globe men came here to learn to fly, while American-built aircraft were shipped to foreign lands. That America did not continue to maintain its preëminent leadership in aviation is largely due to the fact that European powers pushed airplane development as a defensive or offensive measure in case of war, while America's position was such that it neither felt nor feared the pressure of such a contingency.



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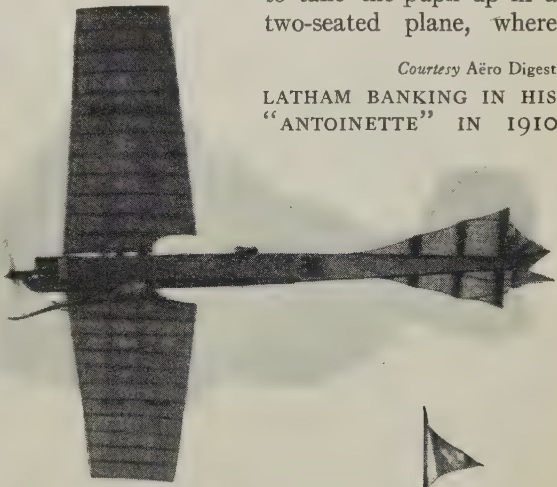
The average American regarded aviation as a welcome novelty. Balloon exhibitions—even dirigibles—had lost their power to produce thrills, but here was the airplane—faster, frailer, and more dangerous than the balloon. Airplane meets soon became the vogue. So few were the pilots and so great the demand for them to fly that large guarantees and huge prizes were offered. At first, the flyers were expected to cover only short distances or perform simple banks and dips, but it was not long before the public, weary of what soon ceased to be a novelty, demanded more thrilling exhibitions. The outcome was that pilots began to compete with each other in dangerous stunt flying. They were excellent airmen—but poor insurance risks.

At the outset, exhibition meets were conducted and controlled by two competing exhibition firms, subsidiaries of the original Wright and Curtiss companies. Both organizations employed professional flyers, who received regular salaries and a portion of the prizes won by them at various meets. It is impossible to estimate the exact value of the shower of gold that poured upon aviators in those days, but it ran into hundreds of thousands of dollars. As time went on, additional exhibition companies were formed, headed by flyers such as Moisant, Captain Baldwin, and numerous others who began as free lances and ended as owners of aërial circuses.

The first exhibition units and the leading ones were those established by the Wrights and Curtiss. These rivals went into the show business in 1910. The Wrights closed their exhibition shop in 1911; Curtiss wound up the affairs of his a little later. Exhibition flying continued, but in a desultory manner, until as late as 1917. But the flyers were few and their awards were scant. Pilots for the early Wright and Curtiss companies were largely recruited from the ranks of balloon flyers, who discovered that the airplane had made their old trade quite useless.

The methods of the Wright and Curtiss schools in teaching students to fly were wholly different. The Wright system was to take the pupil up in a two-seated plane, where the instructor would turn the controls over to him and coach him along until he reached the solo stage—the method of instruction now generally in vogue. The Curtiss system was to have the neophyte take the pilot's seat and run the plane over the ground. The motor would be throttled down so that it could not give sufficient



Courtesy Aëro Digest

LATHAM BANKING IN HIS "ANTOINETTE" IN 1910

EUGENE ELY

CAPT. THOMAS BALDWIN

HARRIET QUIMBY

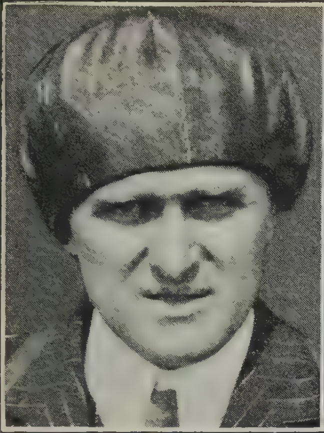
speed to lift the ship into the air. As instruction proceeded, the engine power would be increased until the school plane would take gradually lengthening jumps. The Wright system was called "cloud-slicing"; the Curtiss was known as "grass-cutting"; both proved highly efficient in that they turned out a large number of pilots.

Famous among flyers of the two companies are Hoxsey, Welch, Parmalee, Johnstone, and Brookins—who flew under the colors of the Wrights; and Robinson, Hamilton, Shriver, and Beachey—members of the Curtiss team. All died in airplane crashes but one—Walter Brookins—who is still alive, but no longer engaged in flying.

In those days pilots were called "bird-men." Planes were known as "flying machines," and an aviator did not fly a plane but "drove" it. To give here the records scored by the various individuals from time to time in various contests would result only in a maze of names, dates, and figures as meaningless as they would be unimpressive in these days when record-breaking performances covering thousands of miles follow each other with bewildering rapidity. Then, as now, the records changed so often that it was difficult to keep track of them. In addition, there were so many awards for so many things that it would be almost impossible to recollect them all. But one thing that should be kept track of, one fact that should not escape recollection, is that the men who established those records were master pilots, all of them of rare flying ability, of wonderful courage—most of them men who had that sixth sense known as "flying-feel."

They flew by instinct and they flew well. The name "bird-men" was a well-coined term, because that is exactly what they were. The pioneer flying schools had no physical tests such as are required in all high-grade schools to-day, and all they were taught about flying was what they learned in the pilot's seat. As a class, and with only few exceptions, they knew little or nothing about aërodynamics, stresses, and air pressures, with the result that they subjected their ships to all sorts of strains and never took inventory of the cost. For this lack of knowledge many of them paid dearly. On frequent occasions, planes that had been subjected to excessive stress just folded their tired wings—simply collapsed in mid-air and crashed to earth. Dozens of pilots fell to death in that manner. Parachutes, or a little knowledge, might have saved them, but they had neither.

Reckless daring, foolhardy stunting, judgment and balance upset by excesses, stubborn persistence in flying when conditions forbade it, pique, pride, and public demands for thrills—all of these factors singly, in groups, or all together conspired to cause the death rate among exhibition



LINCOLN BEACHEY

ARCH HOXSEY

JACK MOISANT

pilots to climb and climb until stunt flying ceased to be a powerful magnet for attracting mobs and money.

"You can go home now, I wasn't killed," was one of "Sure Shot" Kearney's favorite farewells to the crowds. But Kearney's "number was up." He flew once too often.

The flying methods of some of the stars usually prophesied their ends. Men who, copying Beachey, would nose their planes earthward in steep dives; who, like Ely, flew in any sort of weather—rain, shine, or fog; who, like Hamilton, sober or in their cups, flew to thrill the mob—were rushing toward the inevitable dreadful climax. Their tactics simply could not last. Death rode with them, grinning in anticipation as they looped, rolled, spiralled, and zoomed—until something broke—and the frightful chorus of wind screaming in the rigging of a plane out of control told these pilots that the end had come.

Lincoln Beachey was one of those who tested the patience of the Grim Reaper. For four years he defied death and flaunted the laws of gravity. This super-skillful pilot, super-daring daredevil, bore a charmed life until one day Death greeted him at the bottom of San Francisco Bay, where Beachey sat in the wingless structure of what once had been a plane. The public may long since have forgotten the man who specialized in doing the impossible and who died when he did it once too often, but among pilots Beachey will always stand as an inspiration—and as a warning. He was a wonderful flyer and a fearless one, but, withal, he lacked that important thing called caution, and caution is an element that every flyer needs.

Beachey joined the Curtiss organization in the fall of 1910. His first official act was to crash a plane. Curtiss thought Beachey had better return to his balloon or do something else, but Fanciulli, the company manager, who thought he saw possibilities in the recruit, intervened, and Beachey got one more chance. Beachey flew—again he crashed. Curtiss threatened dismissal; again Fanciulli intervened, and Beachey continued his precarious balancing act on the Curtiss payroll, but it was not precarious for long. Before 1911 was well under way Curtiss's investment in Beachey paid huge dividends. He brought home the bacon—nice, thick slices full of bank-roll fat.

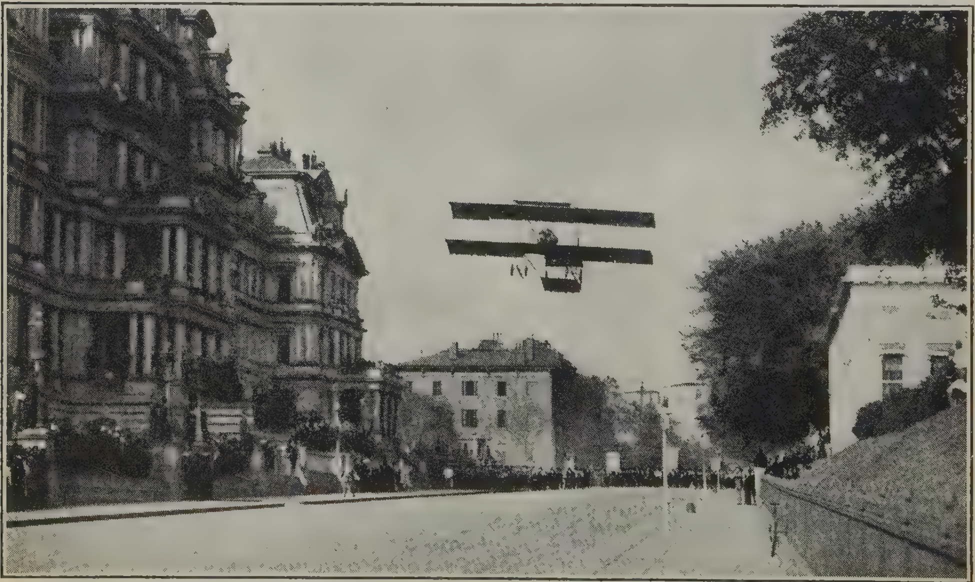
Beachey's premier appearance was in Cuba, and in a short time he set the pace not only for his team-mates but for flyers throughout the world. He did things with his plane that no one had ever dreamed of doing. He knocked on Death's door so often and so loudly that it was almost a miracle that he lived as long as he did. He would skim along the ground, clearing trees, telegraph poles, and houses by inches, or rise into the air as steeply as a rocket until a thousand feet high, when he would drop toward earth apparently headed for a crash, only to straighten out a yard or so above the ground. He had so many tricks in his flying bag and played them with such expert ease and artistic finesse that people flocked by the thousands to see him fly. Orville Wright once watched him with spellbound admiration. He did not say a word until Beachey landed, when he turned to Knabenshue, who was with him, and said:

"He is the most wonderful flyer I ever saw—the greatest aviator of all."

In 1911, Beachey established a temporary altitude record when he climbed to 11,600 ft. The record itself does not matter so much as the way in which he made it. Beachey filled his fuel tank until it could not hold another drop. Then he announced that he would keep on going up and up and up until there was no gas left. He did as he promised and eventually found himself more than two miles high, with an empty gasoline tank, a dead motor, and a long way to go. It is no fun to be at any height with a dead motor, but Beachey calmly swooped back to earth, stunting as he went, and made a beautiful landing. His performance sounds a thousand times simpler than it was.

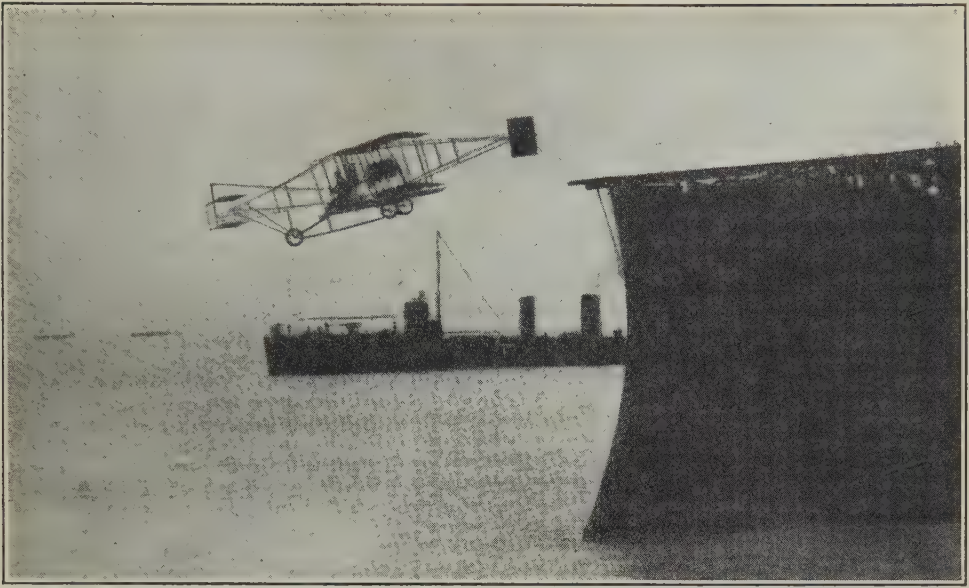
Beachey had countless narrow escapes, but always squeezed through in the hair's breadth that counts. He flew in the spray of Niagara Falls and under the bridge that spans the gorge. It was raining, the air was bumpy—a day for airmen to gossip in the hangar—but with Beachey the show went on, rain or shine. He flew his ship through Machinery Hall at the San Francisco Exposition, raced with Barney Oldfield's speed car, flying so close to the ground that a fraction of an inch was his only margin between life and death. Beachey also thrilled crowds by trick flying, such as landing on the roofs of office buildings or skimming along a row of hangars, sticking his wing through each door as he breezed along. He was master of the air, leader among pilots, imitated by all who dared to follow his dangerous precedents. There were those who hoped to beat him at his own game. One of these was Rutherford Page, twenty-seven years old, a Yale graduate who had gone into aviation for the thrill it held, who served notice that he would out-fly Beachey.

"I will show Linc a trick or two he has never thought of," said Page as he got ready for his first professional flight at Los



MAKING A FORMAL CALL IN WASHINGTON IN 1910

Claude Grahamme-White performed the feat of landing in the narrow street before the State, War and Navy Building, leaving his card with officials, and again taking the air.



THE FIRST SHIP-TO-SHORE FLIGHT IN HISTORY
Eugene Ely taking off from the light cruiser *Birmingham* in 1910. He landed on the Virginia shore after a short flight.

Angeles on January 22, 1912. His last words. He crashed a few minutes later. There were others who decided they would imitate Beachey and attempted to out-fly the master, with disastrous results. The fates of these men affected Beachey so deeply that at one time he announced he intended to stop flying.

On one occasion Beachey attended a meeting of the Aëro Club of New York when the program for a meet was under consideration. Beachey, asked if he had any suggestions to offer, replied that he thought a good event would be one requiring contestants to climb to 4,000 ft., shut their motors off, and go into a nose dive. The pilot who came closest to the ground before he leveled off would be the winner. The suggestion was not adopted.

It was in 1913 that Beachey received the shock of his life. He learned that a Frenchman—one Adolphe Pegoud—had looped the loop. Beachey was infuriated, raging. How dared any one do what he had not done? He swore he would not rest until he had shown Pegoud and every one else how loops were made. The plane he had did not have enough controls for looping, so a new ship was built; but in designing it he sacrificed safety for speed. In the fall of 1913, Beachey flew upside down, and on Thanksgiving Day that year he made his first loop. Twelve months later Beachey had looped more than a thousand times. His practice was to loop at about 800 ft.—dangerously low—but if he felt in a particularly reckless mood, and he frequently did, Beachey would do his vertical circles at 300 ft.

Beachey's flying was one of the most outstanding and also one of the most expensive attractions at the San Francisco Exposition. Reports had it that he received $1,500 per flight, and he usually flew twice a day. It was there that Beachey —in March, 1915—kept his long-postponed rendezvous with Death. In the midst of a dive the wings fluttered from the fuselage of his ship and Beachey, tied in his seat, was hurtled into the bay. More than 50,000 people saw his dive into eternity.

Art Smith—whilom errand boy for a Fort Wayne architect, a youngster who, toward the closing days of Beachey's career, had bidden fair to out-fly the mighty leader—took his seat on Beachey's lofty throne and placed upon his brow the bloodstained crown of Aërial Kings. Smith won fame by courting disaster with reckless abandon. He spun and looped; he made steep vertical dives and dizzy spirals; he stunted in the daytime, and at night, with colored lights and roman candles, he changed his plane into a soaring, swooping, swerving rocket and himself into a human firefly that might dash to death at any moment. But the luck that for so long had held its protecting wings over Beachey seemed to transfer its benevolent influence to Smith. It was on the job regardless of union hours. Smith, somewhat superstitious, constantly kept a "luck-piece" on his person. It was a chunk of gold, almost as big as a walnut, presented to him by Buffalo Bill, one of Smith's greatest admirers.

The plot of the story of how Art Smith rose from office boy to King of the Sky might well have been fashioned by Horatio Alger, Jr. It tells how the dreams of a fifteen-year-old boy to join the ranks of great aviators were realized through his confidence, ability, and pluck. While he was sharpening pencils, developing blue prints, and doing office odd jobs, this lad only half through his teens was inspired by the thrilling stories he heard about planes and aviators. He, too, wanted to live in that great glow of glory, but could see no other way to realize his desire than to build a plane.

He had, however, two major handicaps to overcome. In the first place, Art had never seen an airplane and, in the second, he had no funds with which to build one. His parents were poor; their sole possessions were a cottage, a small lot, and a barn on the outskirts of Fort Wayne, Indiana. Art spoke to his father about his ambition, and so convincing and so colorful was the picture the boy painted that the elder Smith decided to mortgage his home in order to give Art an opportunity to build a plane that would win him fame and fortune. The money was borrowed and Art transformed the barn back of the house into a workshop where he, from a blue print he had bought, built his plane. Art's mother sewed the canvas for its wings, and his father helped him with the carpenter work. A motor and other necessary parts were purchased from one of the numerous airplane supply houses then in existence, and at last the day came when Art was ready to fly.

On a winter morning, while Fort Wayne was still asleep, the plane was taken to the old ball park. The motor was started, Art climbed into the pilot-seat, the plane rolled down the field, took to the air, bobbed up and down, and shortly made a premature landing—a heap of torn canvas and splintered wood. Inventory disclosed that the motor was undamaged but that little else was left.

The boy was depressed but not defeated. He was certain that failure was not due to faulty design but that responsibility for it rested in the controls. Up to this time Art had still to see a plane. He decided that the time and money it would cost him to go to Chicago to get a look at one would be a good investment. So Art journeyed to Chicago; went window-shopping at a local airdrome; obtained the information he wanted; returned to his home; and once more went to work. This time he had to succeed. It was his last chance. His parents had gambled all they had. The mortgage had fallen due and, as payment was not met, foreclosure had resulted. The home was broken up. Mrs. Smith went to live with relatives, but her husband remained with the son, who was able to carry on because he had the use of the barn. Here father and son lived together—the son working and bright-eyed with hope; the father sitting with folded hands, encouraging the efforts of the youngster. This man who had given his all to help his son and who had lost his home in order that the boy might win had also lost his sight.

After weeks of ceaseless toil, Art was once more ready to fly. Again the plane was pushed out to the ball park, again he started off, and this time the craft flew. Art had built a plane that could fly, now he had to learn how to fly it, but that did not take long. In a short time he began to give exhibition flights. He made money, and the first thing he did with his earnings was to pay the mortgage off and restore the home to his parents.

Smith grew to be the sort of a man his

AN INCIDENT IN RODGERS'S TRANSCONTINENTAL FLIGHT

The first spanning of the nation by air was accomplished by Galbraith P. Rodgers in 1911. It took 49 days, although his actual flying consumed but 82 hours. A special railway car with spare parts followed him.

boyhood years had given promise he would be. Lovable, warm-hearted, generous almost to a fault, sober, and careful in all things but one—the air—and here his luck held as he dipped and danced in a shower of gold. He became a pilot of international fame. He had a vest covered with medals, and when the mood seized him he would wear this garment as casually as if it were a sweater. When Europe went to war, and after Pegoud, that most brilliant of French flyers, had been killed in aërial combat, Smith was invited to fly for France. He declined the honor.

"No, thanks," was his answer. "I had rather stay at home and loop the loop in safety."

But when the United States entered into the fray, Smith gave up looping and volunteered his services. He was appointed instructor in one of the aviation training camps, where he taught future Army pilots the art in which he was a genius. After the war Smith entered the air-mail service. For several years he flew thousands of miles over airway routes. He had several minor mishaps, but his luck continued to hold until one night in 1926, when an air-mail plane, lost in fog, crashed to earth. The plane was wrecked. Its pilot was killed. Art Smith's luck had broken.

Hoxsey, Johnstone, Brookins—the Three Musketeers of the Wrights' team: altitude climbers without peer, ground skimmers of rare cunning, daredevils of high caliber; quiet, likeable fellows; close comrades, but keen competitors.

The rivalry between Johnstone and Brookins was keen until Johnstone died; then between Brookins and Hoxsey until Hoxsey's hour struck; Brookins, with new team-mates, carried on until the Wrights discontinued exhibition flying, when he returned to Dayton, his home town, where he is now a prosperous manufacturer. His flying days are over, but he was a great pilot.

The Three Musketeers had their first feel of flight early in 1910. They flew with distinction in the great contests held that year in various parts of the country. Between them they invented the "Dutch Roll," which was a series of banks and dips made so close to the ground that their wheels almost brushed the grass.

John B. Moisant—man of wealth, explorer, adventurer, aviator: a dark-haired, keen-eyed, stockily built fellow in the late twenties; lively in conversation, rapid in thinking, quick in action, tireless in energy—a go-getter who invariably got what he went after. Colorful but brief was Moisant's life. He was an architect by profession, but hated the dull routine of office hours. With his three brothers, he engaged in mining explorations in Salvador and made a fortune. One day Moisant was told that two of his brothers had been arrested by order of the then President of Salvador. Moisant acted in a manner that was as characteristic of his directness as it was unique. Instead of hiring a lawyer, he hired an army. As commander-in-chief of a nondescript array of 500 men he marched upon the capital. The unfortunate part of the affair was that the army, as it approached its objective, got smaller and smaller until it dwindled to a mere handful of followers, who were finally dismissed. To complete the tale—the Moisants were finally set free.

From Salvador, Moisant went to Europe. He arrived in Paris in the summer of 1908, but instead of promenading the boulevards he spent most of his time watching Wilbur Wright prepare for his first flights in France. Moisant soon became a chronic flying field *habitué*. His air enthusiasm grew until, in 1909, he built a plane with which he planned to cross the Channel. This he eventually did, after mishaps and delays so numerous and irritating that the average man would have abandoned the project. When a friend once asked him why he did not call quits on the Channel flight, Moisant answered:

"You know what Grant said about his plan of campaign? Well, I am going to fly across the Channel if I have to wait until I am a hundred."

Moisant finally made the flight, and his mascot on the trip was a small striped kitten that happened to stray into his hangar. The cat became a confirmed air enthusiast and flew a great deal. When Moisant returned to America, the pet not only came along but also had a room of its own in Moisant's suite in a New York hotel. His flight across the Channel made Moisant famous, but the American public did not know him. Many who thought he was French would pronounce his name "Mwasang," an error the flyer usually corrected by saying:

"Moi-sant—Moi-sant, of Chicago."

He liked people and he liked to talk, but he hated to express expert opinions on aviation. Whenever reporters asked Moisant what he thought about this thing or that his stock answer was: "I don't know—I am only a novice." This was accompanied by a smile that soon became as famous as that of genial "Uncle Tom" Baldwin.

The record of Jack Moisant is rich in anecdote, but the most amusing incident and one that thoroughly illuminates his go-get-it make-up has the 1910 Gordon Bennett races at Belmont Park as its setting. Grahamme-White, the stellar flyer of England, had won the Gordon Bennett Cup, but Moisant thought that he could win the $10,000 prize for the quickest round-trip flight from Belmont Park to the Statue of Liberty. But the misfortune that had marked the preparations for his Channel flight caught up with him once more. In testing his plane just before the race Moisant cracked it up so seriously that it was beyond immediate repair. He thought rapidly. Ah—the idea! LeBlanc, famous French flyer, had crashed the day before. The Frenchman, with minor injuries that prevented him from flying, was in bed in his room at the Knickerbocker Hotel—but in his hangar stood a reserve racing plane that Moisant could fly. Presto!—he hopped into his car and drove like one beset to LeBlanc's hangar, where he summoned the Frenchman's chief mechanic.

"Pull that plane out!" he shouted in French, pointing to the plane. "Fill the fuel tank! Paint my number—21—on its tail! Start the motor!"

Shrugging of shoulders and excited fluttering of hands. The mechanic was sorry, but the plane belonged to M. LeBlanc.

"It does now," replied the American, "but it won't in twenty minutes. Get busy!"

Moisant next rushed to a telephone. He called LeBlanc, told him of his predicament, explained his scheme, and offered to pay $10,000 for the racer. LeBlanc, a thorough sportsman, protested that $10,000 was much more than the plane was worth. "Never mind," retorted Moisant, "the amount is equivalent to the Statue of Liberty prize." A bargain was made. Moisant flew the plane. He won the race. Grahamme-White later protested Moisant's right to receive the prize on technical grounds. A few months afterward the contest committee held that Moisant was guilty of an infraction of rules, and the prize went to Count De Lesseps.

But to Moisant this did not matter—he was dead.

Oddly enough, the most popular exhibition bird-man was not a dare-devil but a careful, methodical fellow who flew only when things were just right and who had reached the ripe age of three score years before he learned to pilot a plane. This man was Captain Thomas S. Baldwin, of beloved memory to huge numbers of men, women, and children on three continents as "Uncle Tom." Baldwin was a veteran balloonist, parachute jumper, and tightrope artist. There was hardly a spot on earth where he had not been, or a person of prominence that he did not know. He began flying balloons in 1876, and made ascensions all over the world. A wonderful showman, a fine human being was "Uncle Tom," who had a way of dealing with people as if he had known them all his life. He was a mild-spoken, even-tempered man whose anger was seldom roused, but who, when roused, could swear for six hours without repeating himself. With all his geniality, "Uncle Tom" was a good business man with a keen eye for box-office receipts. It was Baldwin who originated, during his parachute jumping days, the plan of selling altitude by the foot. His rate was $1 per foot, no cut rates, and the minimum footage on Baldwin's catalog was 2,000 ft.

The "Uncle Tom" of aviation was staid and conservative, but in his younger days, and also when he was not quite so young, he produced a good many thrills. Baldwin was well into the forties, for instance, when he created a sensation in San Francisco by doing a dangerous balancing act on a rope stretched between Seal Rocks and Cliff House. "Uncle Tom" thought nothing of this stunt, but he was inordinately proud of the distinction of being the first pilot to fly across the Mississippi River.

He always took a strong interest in Glenn Curtiss, whose fortunes Baldwin virtually established when he recognized the Hammondsport man's ability to make motors. He took up flying in 1910, and always flew a Curtiss plane that was painted crimson. Baldwin called it the "Red Devil." "Uncle Tom" died quite recently and as tranquilly as he had lived during the years since his retirement soon after the armistice. He just went to sleep and never woke up.

A flyer who was great, not only as an exhibition pilot, but also in contributing toward real aviation progress, was Eugene Ely, one of the most outstanding pilots not only of the Curtiss Exhibition Company but also of all time.

"Give me enough power and I will fly a barn door," was Ely's boast. While he never made good on it, he performed in his short but brilliant career two feats almost as remarkable, which paved the way for the use of airplanes by the Navy. Ely was the first man to take a plane from ship to shore; this he did in 1910, when he flew from the deck of the cruiser *Birmingham* and landed near Norfolk. He was also first in landing a plane aboard ship; this he did at San Francisco in 1911. It was a demonstration of superior airmanship when Ely landed his plane on a platform built over the deck of the cruiser *Pennsylvania.* In these days airplane carriers have decks as wide and long as airport runways, but Ely put his plane down on a platform that had a 12-ft. slope, was 125 ft. long, and only 30 ft. wide. It was a beautiful job, perfectly done. These two flights were the premier demonstrations of the practicability of aircraft with the Navy.

Ely was rated as a safe and, for his time, conservative pilot, until early in the fall of 1911, when he apparently became overconfident. He flew at a reckless pace until his last flight took place at Macon in October, 1911. Like Beachey, he did one dip too many.

The greatest cross-country journey of those early days, as well as the first transcontinental aërial expedition to reach its goal, was that of Galbraith P. Rodgers, a remarkably fine pilot of the serious school. Immediately after Glenn Curtiss won *The New York World's* $10,000 prize offered to the man who could travel from Albany to New York by air, William Randolph Hearst offered a $50,000 inducement for the first flight from coast to coast. The prize offer specified that the flight should not consume more than thirty days and that it must be completed before the close of 1910. The reward was never won, but Rodgers, a cousin of the late Commander John Rodgers, famous Navy flyer, decided he would make the coast-to-coast flight—reward or no reward. Accordingly, he got his Wright machine ready, left New York on September 17, 1911, and reached Los Angeles on November 5th—a total of forty-nine days. His actual flying time was eighty-two hours and the distance covered, 4,231 miles.

For this flight Rodgers received the coveted gold medal of the Aëro Club of America. He earned it. There were neither airways nor airports for cross-continental flying in those days, and the successful outcome of his venture was a signal triumph not only for Rodgers but also for aviation. Rodgers was prepared for trouble and he met plenty. Following in his wake was an automobile with materials for temporary repairs and a freight car that was really a repair shop on wheels. Enough canvas, wood, and spare parts were used in repairing and rebuilding Rodgers's machine to construct four new planes. At Tucson, Rodgers met Robert G. Fowler, who was flying from the Pacific to the Atlantic coast, but who finally had to abandon his project, owing to insufficient funds. Rodgers died at Los Angeles a few months after he completed his flight. He crashed to death on the very spot where thousands had hailed him as a hero on the day he finished the last lap of his flight from New York.

Anthony Jannus was another great cross-country flyer. His brand of aviation was not of the dazzling or spectacular variety, though now and then he would flip a stunt or two. Jannus has three distinctions. He was the first to carry freight aboard a plane; first to pilot a ship for a parachute jumper; and one of the first operators of aërial passenger lines. He learned to fly in 1910, and two years later negotiated the longest over-water flight made up to that time, when he flew a seaplane from Omaha to New Orleans. On this trip Jannus carried freight in the form of a case of beer from St. Louis to New Orleans, where he arrived with every bottle intact—a remarkable flight for 1912 pilots. During the same year he took Captain Albert Berry 1,500 ft. above Jefferson Barracks, where Berry jumped to test a parachute. Berry fell 500 ft. before the parachute opened, but he landed safely.

Only a few of the really great pilots of the hectic years remain to be mentioned; and the fates of some of these demonstrate that neither caution nor care were guarantees against disaster and death. Arthur Welsh, Howard Gill, Phillip Parmalee—as fine a set of pilots as ever handled the controls of early Wright planes, worthy successors of Johnstone and Hoxsey; careful and experienced airmen—each of them made the little slip that terminates in a narrow little hangar six feet underground.

Not all of the nonchalant crew that played the risky game of hide and seek with eternity lost out. Some kept going until public interest in their stunts had faded; others quit for new fields of adventure; while a few became super-salesmen of American airplanes in foreign lands.

"Bud" Mars was one of the early flyers who quit exhibition flying when the gate receipts began to slough off, and the game was no longer worth the candle. He did his stuff from 1910 till as late as 1914—a wild and woolly but brilliant pilot of the Beachey type. He was a clever showman, and it was said of Mars that he, from his perch on the plane, could "count the house"—meaning the number of people in the crowd below him. He is still alive, but his whereabouts is unknown to those who knew him in those by-gone palmy days.

Charles F. Willard and Augustus Post, early pupils and friends of Glenn Curtiss, have also turned their backs on flight. While not exactly rated as amateur pilots, they never quite became exhibition flyers. The same may be said of the late Harry Houdini, who included, among the problems he tackled, that of flight; "the Handcuff King" was the first person to fly an airplane in Australia. Silas Christoferson, who afterward became an airplane manufacturer, pulled several stunts during his early flying days that were more than

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mildly dangerous. His outstanding trick was taking off, in 1912, from the roof of a Portland, Oregon, hotel—the first man to risk his neck in that particular manner.

Men had no monopoly of the gold or the glory or the dangers that awaited the early flyers, any more than they have such a monopoly to-day. Several women hit the trail of the air. Some found fame, some met death—some, both.

In everlasting memory will stand Harriet Quimby, who, during the few months of her flying life, showed pluck and skill that won for her the admiration of two continents. As a girl in her early twenties she came to New York from California and went to work on *Leslie's Weekly*. Her first glimpse of an airplane was at the 1910 Belmont Park races. It was a case of love at first sight. She quit her job, learned to fly, got her license—the first ever issued to a woman in this country—and gave a number of exhibition flights here and in Mexico. On the latter tour she was accompanied by Matilde Moisant, who learned to fly after the death of her brother, John Moisant. Miss Quimby's exhibition tour was successful, but she had greater ambitions than barnstorming about the country.

She sailed for France in March, 1912, to attain the greatest desire of her life—to be the first woman to fly across the Channel. This she accomplished on April 16th. Three months later she was killed at Boston in an accident that has never been thoroughly explained. She was flying with William A. Willard 2,000 ft. above Boston Harbor and seemed to be about to put her ship into a normal landing glide when Willard was catapulted out of his seat. A second later, Miss Quimby was also thrown out of the ship. Pilot and passenger hurtled into the water and were killed, while the plane floated down in gentle spirals and landed with practically no damage. The only explanation that has been offered is that the plane struck an errant air current; that the sudden jerk ejected Willard from the ship; and that the release of his weight threw the ship out of balance so suddenly that Miss Quimby was also catapulted out.

On a chilly November day in 1916, a flimsy plane emerged from the haze above the skyline of New York and coasted down toward the drill field of Governors Island. When it landed, a girl covered with layers of leather coats and woolen garments climbed from the pilot's seat, stiffly and laboriously, to receive the congratulations of Army officers and others who were there to greet her. The late General Leonard Wood shook her small, icy hand and said:

"You have done a wonderful thing."

"Oh, it was nothing," replied the girl, "it was only a vacation trip and I had a lot of fun doing it."

Ruth Law had completed her flight to New York from Chicago in 9 hrs. and 1 min. She had done more than that—she had bettered the time of Victor Carlstrom, who only a fortnight before had made the first successful Chicago-New York hop. But, above all, Ruth Law had demonstrated her ability not only as a pilot but also as a navigator. She plotted her own course and never left it. Prior to the time she covered the distance that separates New York from Chicago, Miss Law had never flown more than a score of miles. She made the flight in a flimsy old Curtiss machine of the pusher type on which Wright controls had been installed because Miss Law had never flown a Curtiss plane before. When she first conceived the idea of making the flight, Miss Law went to Glenn Curtiss, told him of her scheme, and said she wanted to buy one of his cross-country planes. Mr. Curtiss told her that he was sorry but he could not make delivery, as his plant was working overtime on aircraft for the Allies. This may have been true, but the real reason, it has since been said, for Mr. Curtiss's inability to sell Miss Law a plane was that he did not believe this tiny woman, who hardly weighed a hundred pounds, would be able to handle a heavy cross-country ship.

Miss Law did not get the craft she wanted, but her mind was made up that she would fly to New York from Chicago in whatever plane she could get. The only ship to be had was an ancient 1913 one that had been used in exhibition flights and was entitled to permanent rest, but she took it. Without ceremony of any sort Miss Law set out on her journey and reached Hornell, New York, in a single flight. She stopped for fuel, continued to Binghamton, where she remained overnight—her plane being tied to a tree to insure its safety—and landed in New York the following afternoon. She was blue from exposure but supremely happy. The Aëro Club, in recognition of her feat, presented Miss Law with a check for $2,500. This was a voluntary gift, as no award had been set for the flight.

There is in this country a famous family of artists of the air who might well be known as the Four Flying Stinsons: two sisters, Katherine and Marjorie; two brothers, Edward and John. All four are splendid flyers, but the most pronounced feature of this famous family is not that they are skillful in handling airplanes, but that the sisters were first to fly and that their brothers learned about flying from them. The most tangible results of these instructions are that the two Stinson brothers to-day occupy leading positions among American airplane manufacturers; that one of their planes has flown from Detroit to Tokyo by way of the Atlantic; and that the same plane, with Edward Stinson as one of its pilots, once brought the world endurance record back to America.

All of the Stinsons are famous, but the most famous of them all is Katherine, who learned to fly in 1912, and whose magnificent flying ability and cool courage have thrilled the public from coast to coast. Miss Stinson had no end of trouble in satisfying her desire to learn to fly. She was just sixteen and looked no more than twelve when she sought admission to a flying school. The instructors told her to go home and wait a few years, but she was insistent and in the end won out. When she was told that Beachey had looped and flown upside down, she looped and flew upside down. On learning that Art Smith had discovered the science of pyrotechnical skylarking, she, too, put roman candles on her wings and drew daring designs in brilliant colors upon the black velvet of the night.

The flyers I have mentioned do not, by far, represent a complete index of the early pioneers. If I were to write it there would be many more names in these pages—names of courageous men and women who set their course toward the stars, which some reached, while others went far beyond them. The stories of their lives, deeds, and ambitions are pretty much the same. Some flew with a tinge of madness; some with a seasoning of caution; some died; and some continued to live.

The contributions made by most of the early exhibition flyers to real aviation progress are generally classed as negligible. In fact, the belief prevails that they hindered rather than helped true aërial advancement; that the picture they created of the airplane in the public mind was that of a dangerous toy that had thrilling theatrical values, unlimited potentialities for destruction, but no practical features to recommend it. Most of the pioneer flyers were showmen who became aviators for the simple reason that they saw in the air a stage on which they could play new parts with great profit.

As a class, they did not look upon aviation as a discovery that would develop a new empire of transportation. Some visualized the great day of commercial aviation, but most of them thought—as they flew—in the present: to-day—all-important; to-morrow? well, there might not be any. The public sensed this attitude and expected of the airplane only what the bird-men could make it yield—thrills and tragedy. Records held little import to the general public. It was the element of danger in setting them that offered widest appeal.

Statistics showing how many exhibition flyers met death in plying their trade are not available, as there were flyers so obscure that they were never heard of. But incomplete as the record is, it indicates that the loss of life ran into the hundreds. The gruesome part of the picture is that a goodly number of those who came to see these men fly were filled with the morbid curiosity of those who go to public executions. The mob came, not to be inspired by the marvel of flight, but to watch a fellow-being play tag with Death, and woe betide the flyer who had been paid to risk his neck and for some reason or other failed to do his stuff—stones and abuse were not infrequently his award.

As the death toll among flyers grew greater and greater, newspapers, instead of lauding exhibition flying as heroic, began to brand it as folly; the once great flow of gold became a tiny trickle; public interest in aviation, being of but shallow depth, lagged and died—the game was over, and flying, for all practical purposes, fell into a state of hibernation. True, there were persons whose interest in aëronautics was established on firmer ground than that on which the exhibition flyers had built: men who realized that some day the airplane would become a great public carrier and who devoted their efforts to its development in that direction. But America as a nation—the country that gave the airplane to the world—fell so far in the rear of the aviation procession that the task of restoring it to its original position of leadership seemed a hopeless one.

But Europe had forged ahead while America stood still. Instead of meaningless exhibition meets, the countries of the Old World encouraged large-scale cross-country flying as the course best designed to develop reliable motors and airworthy planes. Huge prizes awaited successful flyers. For instance, the total awards offered for European cross-country flights in the fall of 1914 aggregated more than $2,000,000; but the events were called off when war was declared.

Two great flight projects were launched in America in 1914, but they, too, were thrown into the discard on account of the war. One of the proposed flights was to cross the Atlantic in a Curtiss seaplane for the Northcliffe $50,000 prize. Rodman Wanamaker financed the building of the boat. The other project was a round-the-world flight sponsored by the San Francisco Exposition, which offered prizes totalling $150,000. War caused these flights to be cancelled, but war also saved American airplane builders from an extremely serious predicament. Exhibition pilots had been good customers while they lasted, but when they either died or dropped out, manufacturers found themselves up against it. The few demands for planes came mainly from a small group of wealthy sportsmen, and the war-time airplane market did not develop until some months after the conflict began.

Thus closes the story of the hectic years and the period of let-down that followed in their train. Starting with the gold rush among the clouds, it ends just as Mars hurls his shafts across the sea. With that sudden flash of lightning the darkness that had descended upon American aviation is pierced by the crimson flares of battle. Under their weird and awesome glare, brains, brawn, money, and men give new glory, new meaning, new strength to the science of flight.

The vanished gladiators of the golden years are succeeded by the soldiers of the sky. Sentries—who patrol the clouds. Fighters—who battle miles above land and sea. War! Staccato chatter of machine guns. Whine and blast from bursting shells. Plumes of smoke from burning planes. Brave deeds that will live forever. Brave hearts that are still forever. War! And high above the din of conflict sounds the strident clamor of roaring motors and thundering props—the battle hymn of the Knights of the Air—and taps as well.

New England Brings Some Ghosts Back to Life

She Lost Her Agriculture, But Now Regains It

HENRY BAILEY STEVENS

Is is impossible for individuals, governments, or businesses to progress without changes of method to conform to the spirit and customs of the times. In a recent group of articles on "These New United States," we told the story of these changes in our own country, and in one article Mr. Strother explained why New England clings to her progress and prosperity despite the fact that in many of her industries she has lost preëminence to other states. This article tells in more detail how New England is even regaining a part of her lost agriculture.

PEOPLE WITH IMAGINATION, like Mary E. Wilkins, naturally saw it first—that haunted farmhouse with its decaying door-sill and its gaping windows, or its decadent inhabitants and its gaping children. Without realizing that they were stating a "problem" they wrote into literature shivers that thrilled other imaginative persons of their time. Such questions began to be asked as "What is rural New England coming to?" and half-scared whispers were made in reply.

The ghost that was then summoned into being has since troubled many an otherwise peaceful dinner of business men. It has stalked out on platforms at the beckoning of college professors and has been treated in the press as prosaically as market quotations. Plenty of proof of its existence may now be found in the United States census reports.

One would have to be a hardy skeptic to deny the haunt. There are roads, not built of macadam, that lead for miles in northern New England through regions where the woods have conquered, where stone

Photograph by Ewing Galloway

AN ABANDONED CONNECTICUT FARMHOUSE

ONE OF THE MANY SIGNS OF AWAKENING INTEREST IN NEW ENGLAND
Here the profits of poultry raising won against the various attractions of the cities. The picture shows a group of young poultry men sending off the first freight carload of broilers ever shipped from New England.

walls that once traced green fields and pastures are now damp, mossy, and strangely shaded, where trees have invaded even the cellar-holes and impudently flaunt their banners above the graves of cider-barrels, potato bins, and preserve cupboards. If the houses are still standing, the process of death is even more evident, and one turns with sickening heart from the half-bared skeletons. Only the lilacs usually are left alive.

Half of the improved land that New England had in 1880 has now reverted, according to the census, to the unimproved state. Nor are the people remaining in such regions free from the spell that has been cast over the land.

Once, journeying with horse and buggy —an automobile, if I had had one, would hardly have been so pleasant—I stopped for axle-grease at the only building for miles that had shown even the possibilities of smoke. Out of the wood-shed of the big house, which could easily have cared for a family of eight, came an old man who proved to be its only inhabitant. Much more than axle-grease he gave me; wonderful tales of animals and enemies he told so convincingly that to have doubted would have been as heretical as to shout "No" when Peter Pan asks: "Do you believe in fairies? Oh, say that you believe!"

Another house I remember where a girl of ten or twelve was by the side of the road. "Over there," she said, pointing to an innocent clump of alders, "'s a girl."

The fact that we could see no one did not keep her from reaffirming it.

"Somebody killed her," she added cheerfully, as if she were supplying the answer to a riddle. If so, it was a long time ago, for the alders were several years old. No policeman was handy, and we drove on.

Such cases are mainly the flotsam of abandoned communities, and do not mean that our whole countryside has been wrecked. To assume, as have some who ought to know better, that they represent conditions in rural New England as a whole is like judging a city by its slums. For the blight of the country is where people have deserted it, just as that of the city is where too many have sought its embrace. In one case the blood supply goes short, and we become anæmic; in the other the blood congests and creates inflammation.

Grant, however, that parts of New England are inhabited only by the ghosts of their former selves, all good readers of mystery stories must at once ask the cause. Most authorities, remembering previous associations of money and haunted houses, have not been slow to answer: *Cherchez* *l'argent.* Nor can one easily quarrel with this economic interpretation of history.

"The opening up of cheap lands in the West, and improvements in machinery, transportation, and storage," so runs the argument, "brought New England agriculture into competition with a high-powered production area that could grow crops with such ease and such volume that the farmers of our small, rocky, inaccessible fields were worsted. People with initiative, particularly the young, knew enough to see that they were beaten and withdrew to the cities, where they got jobs running looms, practicing stenography, arguing about law, and operating elevators. Only those who lacked the necessary enterprise to come in when it rains stayed in the hayfields; these were principally the old and the unintelligent."

It is a striking fact that there is a much higher percentage of farmers more than sixty-five years of age in New England than in any other part of the country. As to their average intelligence, in the absence of any psychological tests, we are perhaps impudent to discuss the subject!

The economists, however, do not paint an entirely gloomy picture:

"To-day," they continue, "the situation has changed somewhat. There are no more cheap Western lands. Freight rates are so high from the prairies to our Eastern cities that New England has an opportunity to grow commodities where bulkiness, quality, or freshness are of primary importance. She may never again produce wheat or beef or wool; but she may well concentrate on hay, lumber, milk, premium apples, and fresh eggs."

It is only a readjustment, and not a disaster, they say, that has been taking place. After all, the young people who rushed off to run looms and write short-hand need not have been in such a hurry. If they had had a little more intelligence and, staying behind, had adapted themselves to new conditions—

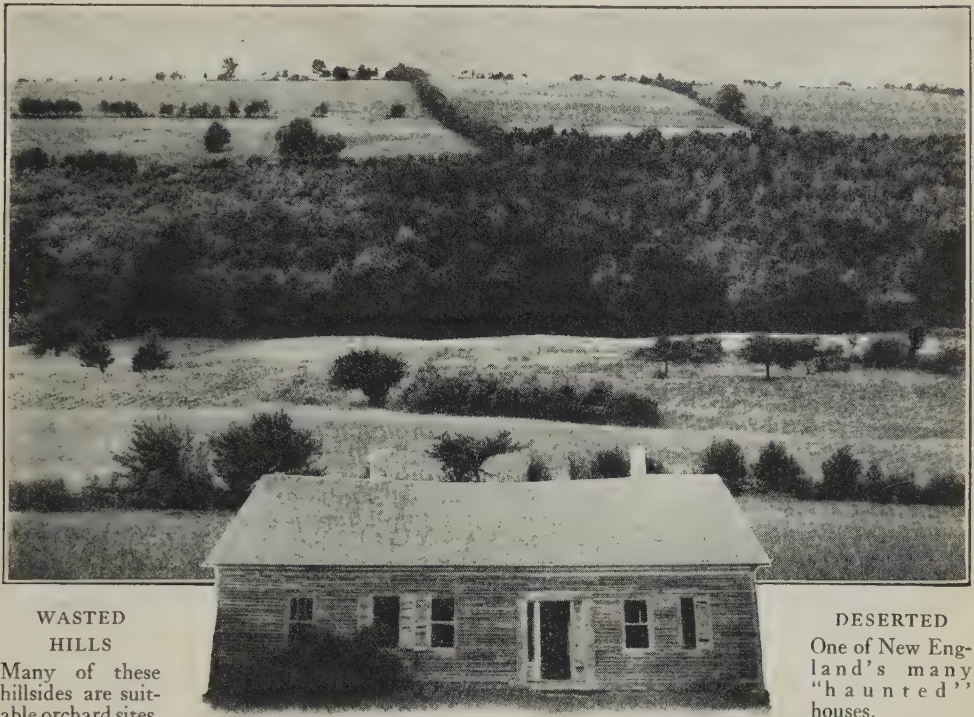
The economist's logic is well-nigh perfect, and seems to explain satisfactorily a great many things, but one point still bothers: While our young people have been leaving the country to make money, our moneyed people have been going into the country to spend it. Where farms have been dwindling, summer homes have been waxing. Something there is that draws great waves of people from the cities out to the fields, mountains, lakes, and forests. Not only do you see them bowling along in motor caravans in summer on a pilgrimage perhaps to the White Mountains or the Maine lakes, but even the rigors of the winter do not keep them away; muffled in sweaters and mackinaws and carrying novel foot-gear, they brave the storm and cold and go back to their city warrens talking of "God's great out-of-doors."

Is it simply the desire for change animating the human breast that has made these opposite currents, one hastening into the maelstrom, the other rushing out for a gasp of air?

I presume the economist would reply that only the wealthy could afford to live in the country, and that for the last fifty years—that is, since people began to think in terms of dollars and cents—rural life in New England has been a luxury that the average farmer must think twice about. In other words, it was well to live in the country provided one could live comfortably, but it did not pay to work there.

There have been at least five main ways of treating the economic challenge of country life: *First*, to deny it, the Thoreau method; *second*, to ignore it, which has been, perhaps, the typical farmer attitude; *third*, to overpower it, the summer resident method; *fourth*, to compromise between farm and factory, the Ford theory; *fifth*, to raise the efficiency of both farm and home, the program of the educational agencies. In each of these methods certain advantages may be pointed out, as well as certain inherent difficulties.

Of all the above-named philosophies, none appeals more to the imagination than that of the Concord hermit. In an age that admittedly worships the Golden Calf, here is a man who defiantly walks in the other direction. Let there be bathtubs, he declares; for me a sky-reflecting pool will take their place. Are you in such a hurry, you who whiz by in whatever



WASTED HILLS
Many of these hillsides are suitable orchard sites.

DESERTED
One of New England's many "haunted" houses.

vehicle the inventive genius of the race has most recently produced? You are not fleet enough for me, who am busy spanning the ages and circling through the vast spaces of the universe.

The modern utilitarian, wondering whether it pays to live in the country, would have to hurry back to his definitions if he conversed with Thoreau; and it might be a most wholesome return.

Nor has the sage of Walden been as solitary as a study of literature might lead us to suppose. I do not know of a town in northern New England that does not contain within its borders persons who react in somewhat the same manner, not so sublimely to be sure, not with such certain culture or kindliness. These are the ones who sell as little of themselves as possible, whose work is to roam the woods and study the streams, whose delight is to discourse at shanties, and who reduce their demands upon civilization to the barest minimum. They work occasionally—usually upon the roads—and are stigmatized by the enterprising as loafers.

Only the most driving 100-per-centism will ever eradicate these Hiawathas; and for my part I confess that I should look upon their departure with dismay. They are a link back to the Indian; their hardy traits, their peculiar wisdom are a heritage that may have as much healthy value as many a shelf in our village libraries. Yet it must be admitted that their lot is a difficult one, particularly for a married man. Their solution will, at best, be for the occasional individual, not for the rank and file. Possibly we shall learn some day to train such talents, as the East attempts, into holy men, sages, and teachers. At present, the danger is that we shall deafen ourselves altogether to their voices, rather than that they shall convert us to their way of life.

Perhaps it is not correct to say that the average farmer has ignored the economic challenge; rather has he accepted it passively, acknowledged the seriousness of the situation while doggedly holding to his course. Accustomed to the inevitable in frost, rain, and drought, he looks out upon the huge financial intricacies of the day and sees himself powerless before them as before the sun. He has learned to distrust the ballot-box and the press; this only he knows: that he must toil if his family is to live. Whether this toil is intelligently applied has in many cases not seemed so important. He may be wasting time on a number of cows that give out less money at the milk-pail than they swallow from the manger; he may fail to map out and follow a profitable rotation of crops; he may be pasturing hillsides that should have been set years ago to apples; he may be cutting cordwood clean where he should select the undesirable trees for fuel; he may be working farms too rocky, too small, or too isolated for the volume of business that is a necessary prelude to profit. But at least he has been industrious. His growl has never been a whine.

While one may see some merit in this attitude, it is hardly more than a psychological solution. In fact, its natural result has been, while insuring existence to the farmer, to make equally certain the removal cityward of his children, as soon as they became self-supporting. Our farm population has been like a great lake whose outlet has been widened, thus lowering its shores and threatening such drainage as would leave only a vast swamp. Against the resistless force of gravitation the lake has simply lain placid, feeling its power sucked away from beneath. This analogy does not apply to the entire body of farm people, and it applies much less than it did ten years ago, but it still represents, I believe, the point of view that would most nearly fulfill the law of averages.

No less unthinking, although more powerfully expressed, has been the reaction of the summer resident. At first sight, at least, it would appear that none love the country so much as those people who leave their homes and places of business to build or rent or appropriate new places there where they can clasp it to their bosom for a few months in the year. Certainly, none speak more fervently of their passion. As soon as June, or before, one hears them on the train—although more and more they come by motor—exclaiming at the first sight of the restful green, eager to plunge into the cool water, panting to climb the mountain peaks. One is tempted to ask: are these not, after all, the true inheritors of our farms and villages? They are so delightful, so graceful; they bring to the country such beautiful presents; they adorn her so handsomely with flowers and shrubs and blocks of stone, and paint, transforming her often from a plain old maid into a comely maiden—are they not the very saviors of New England?

I think that we must answer this question as delicately as possible to the effect that they, as they themselves well know, can hardly be classed as members of the life-guard. We need not be churlish about it; so far from begrudging them their joy, we may well share with them—and most of them are glad to have us—the pleasures that they find. Yet the fundamental problem is not, after all, so much one of spending money as of earning it. To say that we should go into the cities to "make our pile" and then return to the country to enjoy its expenditure would be to beg the whole question.

Some there are, of course, who declare that it is not cows we should milk but city people. The latter come with full money bags, overflowing with profits that they have got Lord knows where. What more should we ask unless it were manna from Heaven? To accept this philosophy would eventually make peasants of all who lack the peculiar mixture of suavity and independence that characterizes the hotel landlord. The blunt truth is that our urban friends, in relation to the soil itself, are largely parasitic; nor do I say this to damn them; for they are in the main like the woodbine, which well redeems with its autumnal beauty its inherent lack of thriftiness. But must we in turn become unproductive by feeding upon their unproductiveness?

In fact, there is some ground for thinking that the city person is, as the old playwrights usually had him, the villain of the piece. Often smooth, rich, and sophisticated, he comes to indulge himself. His clothes, his motor cars, his houses can hardly fail to arouse discontent. If his scale were only slightly above that of the rural people, such discontent might well be a wholesome spur. Too often, however, the newcomer moves, like a prince, upon unapproachable levels.

To all such questions as this the gentleman from Dearborn, Michigan, has a most disconcerting method of applying his peculiar fund of common sense. On the matter of rural and urban life, he looks up from his manufacture of motor cars long enough to inquire why we need to make the distinctions between the two that have been our habit.

THE AWAKENING OF NEW ENGLAND'S RIP VAN WINKLES
An automobile tour of farmers—an unheard-of event ten years ago.

"The city is not so efficient as we have thought," he declares, "and there is good reason why we should break it up into smaller units. Factories do not have to huddle together like a big family in one bed, they would be better off at a more respectable distance. Industry has reached a point in its complexity where it should start over again and become compound.

"What I mean is that we can move our factories out into the country advantageously. Here in one community we could manufacture one part of our engine, our wheel, or hood, or what not; over there we could manufacture another. The workmen in each would not be forced to live in the grime and smoke of city slums; they would be next to the soil. In fact, they could raise much of their own food."

I do not pretend to quote Mr. Ford exactly but this, I take it, is his thought.

The advantages of the plan are obvious, and it is by no means clear that the two principal criticisms raised against it are well founded. The first of these is that the scheme would defile our countryside with the ugly monstrosities whose absence now provides one of our greatest charms. It was this blurring of the landscape with the mechanical messes of man that aroused Ruskin's wrath in rural England; and it must be admitted that the sanitary engineer and the architect have too often been omitted from the payroll in the past. Nevertheless, if we in the country wish to enjoy the benefits of this steel-riveted civilization to which our age has committed itself, there seems no good reason why we should scorn its necessary lifeblood. The price of motors, mowing-machines, gasoline engines, and vacuum cleaners is the factory; and it seems only fair that such price should be distributed, if possible. Furthermore, the increasing use of water and electric power, to which New England is naturally adapted, is likely to mean a more attractive type of factory in the future.

The second objection to the Ford theory is that it has already been tried and does not work. Many New England towns have had factories, and among their employees only the occasional individual has successfully combined his work with farm life. Most of them have lived in the miniature slums or tenements owned by the "corporation," hardly connecting with the soil except for occasional gardens or as their women and children pick blueberries. For the most part the indoor life of the factory, the whir of the machines, the monotony of the tasks, have seemed to unfit them for the rugged outdoor, strange duties of the farmer. They have succumbed to the specialization of the age, and have been content to leave to others the production of food and fuel.

Such experiences, however, by no means disprove the Ford plan. Changes in our educational system or in the organization of our factories might well bring different results. Shorter hours, the scattering of the tenements, the reduction of distance through use of the automobile, are already creating a new condition; and there are signs in some sections of a gradual permeation of the country by factory workers.

Expert foresters tell us that a particular need exists throughout northern New England for small wood-using industries. The replacement of the old village mill by the portable outfits has by no means been satisfactory, resulting, as it has, in the massacre of timber instead of its steady year-by-year cropping. Woodlots comprise about half of the total farm area; and if their profitable use depends upon a permanent mill, here is an additional reason for working out a combination between farm and factory.

Whatever the value of such compromises, however, we must recognize that many years will be required for their adjustment. Industry does not shift its base overnight, and probably a generation will pass before the Ford theory, if sound, can be put into operation. Even then, undoubtedly, large areas of New England may not be primarily concerned.

During the last ten years, this problem has been affected over the country as a whole by an intensive campaign in agricultural education. Extension agents, representing the United States Department of Agriculture and the state colleges, have been placed in the various counties, where they work with local farmers along three main lines: more efficient farm management, improvements in home conditions, and the organization of 4-H clubs.

Now that it is possible to gauge to some extent the results of this work, we may well ask what hope it carries for the waning farms of New England.

Certainly, it has thus far failed to stop the flow from country to city. About 9,000 more people in the six northeastern states took the broad highway into the urban whirlpool in 1925 than went in the opposite direction, according to Washington estimates; and while this was a smaller percentage than in the rest of the nation there is little comfort in the figures from the standpoint of quantity in rural population.

The fact is that education in scientific agriculture will not save the unfit farm or the inefficient operator, but will actually hasten their doom. If the soil is poor or the land too inaccessible the alert farmer will go elsewhere. Indeed, the whole tendency resulting from education has been to increase per-capita production, which means that fewer hands are required to turn out a given supply. One man, equipped with modern machinery and methods, does the work to-day that took two men in 1870; and he is more careful that his labor is spent on responsive farms.

It is asking something against the very nature of efficiency, therefore, to request a maintenance of the status quo. It involves change not only to the best methods but also to the best locations.

On the other hand, we do have a right to expect this of a more scientific agriculture: that it will safeguard those lands and those men best adapted to efficient production. It should prevent the Eternal Sheep in us from getting the upper hand and stampeding to the city regardless of opportunity in the country. It should heighten the discriminating faculties so that not only the unfit is condemned but also the fit is salvaged.

Indications of such results are already apparent. The 1925 census shows in New Hampshire, for example, a marked tendency for apple production to settle in the sections where it has been proved most profitable; shows potato yields higher than ever before in the history of the state; suggests that the low-producing cows are being eliminated; and indicates a doubling of the poultry industry, which is a type of farming particularly adapted to the small-sized farm. These results are not due entirely to the educational program, but no one familiar with the work that has been done would deny that this has played a most prominent part. Demonstrations by county agents for three years, for instance, proved that with certified seed the yields of potatoes could be increased more than sixty bushels an acre. Behind the expansion in poultry has been a definite program recommending in detail the breed of bird, the method of feeding, the type of house construction, and the prevention of disease. It is no mere fortuity that 90 per cent. of the poultry in the state are Rhode Island Reds, or that so many chicken habitations are built on identical models. In the other New England states extension workers point to similar accomplishments.

If New England alone were thus increasing the efficiency of her agriculture, she would undoubtedly have a decided advantage over the rest of the country; but the spread of this type of educational work over the United States as a whole means in the end a heightening system of production. Under this system, as in the old order, the devil takes the hindmost. The modern farmer has to work under much the same nervous tension as the modern business man, has to be alert to the costs of production, economical utilization of labor, and trends of market.

And so, were the educational program confined entirely to farm efficiency, it would be merely a speeding-up process, with the ultimate result simply a cheapening of food costs. The consumer would benefit much, the farmer as a class not at all. Along with the technical factors of the campaign, however, have been others: a constant emphasis upon coöperation with other farmers; upon community enterprise; upon a new point of view for young people; and upon improvements in the home. Not all of the trouble has been the difficulty of earning money; sometimes, when earned, it has not been translated into better living conditions. Farm wives to-day are more insistent upon conveniences, are less isolated in their outlook, and there is some reason to believe that their children are not being so easily pulled away by the city magnet.

This much can be said with considerable certainty: that New England need not fear for her better farms. She has the advantages of large near-by markets, which can be easily reached; she also offers farm land at a comparatively low price.

As to whether this spread of material civilization into our country districts, bringing as it does the rattling car, the billboard, the tin can, the cigarette, and the "hot-dog" stand, is an unmixed blessing is another question. In the last analysis that will depend upon what we succeed in making out of material civilization. The city itself is perhaps not yet able to justify entirely the metallic pattern that it has been weaving. What city and country together will do is by no means clear; it does seem certain, however, that the two will be more closely bound up than ever in the ultimate solution. The dividing lines between the rural and the urban mind are fading away.

Meanwhile, in many regions the haunted farmhouses still stand as the less and less substantial memories of other days. To the followers of Thoreau their passing is of the greatest pity: "There was Beauty here; what more does a man need?" The farmer views their demise with a sad fatalism. The summer resident buys them for their quaintness where they touch his fancy and where they are still repairable. The theorist tries to plan a system that would bring them back into the economic circle; and the scientist is content to hold them up to the acid test of present-day efficiency.

"Each farm in itself is a special problem," he says. "If it can be salvaged through scientific practices, good. If not, good also; for it is not well for man to live here if the fight is hopeless."

As is the case with most haunted houses, no solution entirely satisfies. Perhaps the whole problem is largely one of a state of mind. After all, the forests that have crept up to the deserted cellar-holes are clean and beautiful and useful. Is it not childish to be afraid of the woods?

THE WORKSHOP

IN ONE of our early issues this year we ventured the prediction that this Presidential campaign would be one of the most tempestuous in years. Letters to the Workshop among other minor and major signs had presaged that when, just a year ago, we published some chapters of the life of Governor Smith and in our issue of December, 1927, came out editorially in favor of the nomination of Mr. Hoover. Another flood of letters followed the publication of Mr. PRINGLE's article on Mr. Hoover in our June issue (pronounced by some of Mr. Hoover's friends to have been the best analysis of him ever written). So, too, did the article "The Napoleon in Politics," in our September issue, call forth letters from both supporters and opponents of Governor Smith. In view of the great interest in the campaign shown by our readers we print herewith selections from some of the recent letters we have received about this torrid campaign:

To the Editor, WORLD'S WORK.

Sir: Permit me to make a few observations on Charles Willis Thompson's article. He calls Al the Napoleon of American politics. I think the comparison is good—awfully good; and the Battle of Waterloo will be held on November 6th this year instead of June 18th!

This is going to be a mud battle, all right. No doubt of that. And a religious battle. The newspapers would have us believe that the main issue is prohibition. It is important, but not *half* so important as the religious issue. Travel around the country and talk with the man on the street. Senator Robinson recognized the fact publicly in the Democratic Convention, and *he* knows how important it is. He also knows that his historic utterance did not slay the ogre. The Solid South is apparently going to spring something astounding.

R. O. BARKLEY.

The author of the next letter, who requests us to withhold his name from publication, is a resident of Georgia.

To the Editor, WORLD'S WORK.

Sir: "The Napoleon in Politics," by Charles Willis Thompson, is most interesting; however, it does not supply all the main facts of paramount interest to the American public when making their decision at the approaching Presidential election.

It is stated that Governor Smith's learning is limited to that obtained through parochial schools. If that is so, from whence, or whom, does he obtain his intimate knowledge of human nature, and the affairs of New York State, and this United States of America? He admittedly is a devout Roman Catholic, and, as such, has the command of the most exact knowledge, the very last word in all the arts and sciences, a complete insight into the failings of plain human nature—in fact, all the stored-up information of this world's most complete and homogeneous organization, the Roman Catholic Church. Governor Smith undoubtedly has the ability to use this vast knowledge for the immediate political purposes in hand, but where will this lead in the larger policies of this country?

Granting that Governor Smith is absolutely honest in all his political protestations, is he, in an important crisis, "his own master"? The answer is "No." Should any one doubt this, let him delve into the methods and the history of the Roman Catholic Church, past and present.

In the eyes of this church, all those not members thereof are "heretics." According to newspaper statement, we had the spectacle of Governor Smith bending the knee to the Papal representative at the time of the Chicago Eucharist Conference—this in his official capacity when welcoming the Cardinal. Do we as citizens, the majority of whom are "heretics," wish to see our President bend his knee to any foreign power on earth?

This phase has nothing to do with the right of every man to worship God as he may please, but as long as our Catholic friends recognize and tolerate a foreign control over their most intimate actions and thoughts, they automatically lose any right whatever to political power such as the White House represents.

"It is a satisfaction to note that so far there has been no open stimulation of the religious 'issue'—as though a President's religion could be an issue in a country founded on the principle of religious freedom!" A reader in Mt. Vernon, New York, dissents from this view, which was expressed in the leading editorial in our September issue.

To the Editor, World's Work.

Sir: I am not prepared to assert a belief that Mr. Smith's religion would of necessity prove a disqualification in his bid for the Presidency. I have no quarrel with that religion more than any other. Indeed, I realize that half this religious "issue" is the work of Smith's own friends in an attempt to consolidate the vote of his co-religionists behind him. Investigation convinces me that the genuine opposition to Smith on religious grounds has been negligible from the beginning.

I do, however, challenge several assumptions of your editorial. It is clear that, if a man is sincere in his religious opinions, his religion is a vital fact in the analysis of his personality. If he is not sincere in that profession, that also throws light on his personality. The suppression of essential facts regarding the personal character of a candidate for public office is nowhere demanded or suggested by the Constitution of the United States.

K. Kingston.

The next letter comes from North Milwaukee, Wisconsin.

To the Editor, World's Work.

Sir: This article by Mr. Thompson would almost lead one to believe that Governor Smith possesses a supernatural power that is able to silence any and all who would dare to challenge him. Here are fair samples: "And so, having learned nothing, unlucky William Allen White leaped cheerily forth to repeat the slanders about how Smith as a legislator had favored whisky and prostitution." "Waited until Charles C. Marshall, a man *good enough for his notice*, voiced it, and then smashed it in the solar plexus." But let us not deceive ourselves about this complete "smashing" process. There is not one word of truth in that assertion. This is all splendid political propaganda. But millions of us have other thoughts on the matter, and those silent millions will *speak* mightily on November 6th.

H. B. Schultheis.

In answering the following letter, from a reader in Plainfield, New Jersey, we pointed out that the word "slums" in our editorial was not used in any criticism of Governor Smith, but rather in admiration of his rise from humble surroundings to one of the highest honors in the nation. Even his most ardent personal admirers describe his birthplace as the slums and, therefore, we think we used the word in the right sense.

To the Editor, World's Work.

Sir: The author of the leading editorial in the August issue evidently started out to be fair, but he got decidedly off the track when he referred to Governor Smith's birthplace as the slums of New York.

In the first place, the house in which he was born was not in the slums, it was in a *poor section* of New York. I know this to be a fact, because I passed it daily on my way to business from my house in Brooklyn. In the second place, even though the house was in the slums, is there any reason why the writer should refer to it twice? The very fact that the Governor has risen to such heights as to attain the exalted positions that he has, and gained the respect and admiration of so many reputable people all over the country, should be sufficient reason to pay some respect to a man's accomplishments, no matter where he was born—a circumstance over which none of us have control.

E. C. Boise.

The subjects to which the writer of the following letter, a resident of Hollywood, Florida, refers as not appearing in our September issue, have all been discussed or referred to in previous issues.

To the Editor, World's Work.

Sir: In the Presidential Campaign Number you give only the favorable aspects of one side. This number dwells at great length on the virtues of one candidate and omits all upon which there is a difference of opinion. Nothing is said about Smith's influence in the repeal of the state enforcement law. Nothing is said about his proposed "modification" of the Eighteenth Amendment, which closed all the saloons of the country and made it illegal to use intoxicating liquors. Nothing is said about the fact that all the cost and trouble in the enforcement of the law is caused by the attitude of men like Smith. Nothing is said about the fact that it is the influence of such as Smith that the defiance of the law is the highest ambition and greatest pride of some of the weak-minded youths and grown-ups of the country.

G. M. BEARBOWER.

Governor Hunt, of Arizona, calls our attention to an error in our September issue.

To the Editor, WORLD'S WORK.

Sir: On page 472, in your editorial "The Untamed Colorado," I find this statement: "The Swing-Johnson Bill, which embodied most of Mr. Hoover's ideas, as well as a number of which he may not have approved, called for a dam and power houses at Boulder Cañon, above the Grand Cañon, and for an All-American Canal."

You are in error. The Boulder Cañon dam site is not located above the Grand Cañon. It is located at the lower end of the cañon, and this is the criticism of the Swing-Johnson Bill which Arizona has made. We believe that the storage dam should be built above the Grand Cañon and not at Boulder Cañon, which is below the Cañon.

GEORGE W. P. HUNT.

Approval of our editorial entitled "Save Yosemite!" is expressed in this letter from Los Angeles, California.

To the Editor, WORLD'S WORK.

Sir: Your article regarding the Yosemite in the September number is fine. It will do us Californians a lot of good to know our Eastern friends think our natural wonders worth while, and will hold us to strict account if we destroy them. We have on the ballot for November a six-million bond issue that we hope to put over to save some of our wilderness for State Parks. We are copying New York and Pennsylvania, but we are about twenty years late.

F. R. BURNHAM.

An anti-suffragist's reaction to our editorial "Why Vote?" in the September issue is contained in this letter, from Glens Falls, New York.

To the Editor, WORLD'S WORK.

Sir: In the editorial "Why Vote?" some surprise is expressed that all women do not vote. As I am one of those who do not, I shall give you some of my reasons. I was very much opposed to women's getting into politics, as I thought public life for women was contrary to the law of nature.

Women have become artificial. They are immodest in their dress. They think it is no disgrace to enter beauty contests and have their figures inspected for prizes like race horses. At the rate women have deteriorated in the last ten years, twenty years more should see them fit only for the jungle. Many of them will fight for prohibition but are too blind to see the abyss toward which their children are tending. The amendment giving the vote to women should be repealed—and soon.

(MRS.) HARRIET A. BENTLEY.

From Eastlake, Florida, comes this comment on HENRY KITTREDGE NORTON'S article, "What's the Matter with Mexico?" in our September issue.

To the Editor, WORLD'S WORK.

Sir: As one who has spent several years in Mexico, having moved there in 1908 and lived there continuously until 1913, and having made five trips there since, I have formed opinions very much at variance with those written by Mr. Norton. In the first place, I think that all that Mexico lacks to put her to the front among the nations of the Western Hemisphere is education, which will take at least two generations.

Further, Mr. Norton is, I think, mistaken in the proportion of the different races. I place the Indian population at 75 per cent., mixed races 15 per cent., and those who claim pure Spanish blood 10 per cent. This does not include the foreign races.

E. B. ERSKINE.

Senator William E. Borah

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THE MARCH OF EVENTS

FEW UNBIASED political observers believed that Governor Smith could be elected. Fewer still, probably, believed that Mr. Hoover would be elected by such an overwhelming vote. The astounding feature of the election was the remarkable increase in the number of ballots cast and the large fraction of this increase that went to Mr. Hoover. The returns defy the usual methods of political analysis. Mr. Hoover might have won the campaign on his farm policy, his tariff policy, his power policy, or the showing of prosperity under a Republican régime.

But these, the traditional "issues," were not what brought the avalanche down on Governor Smith's head. Mr. Hoover had, first, the benefit of a reputation for able and disinterested service to his fellows. If as food administrator he had disciplined the farmers they had forgotten it. They remembered Belgium. They remembered the man who threw himself so warmheartedly into the difficult business of flood relief a year and a half ago. Sentiment like this cannot be measured in advance. The wiseacres who have sat up nights over every contest since the days of Tilden and Hayes knew not much more than did the rest of us.

Mr. Hoover had, in the second place, the advantage of having taken the popular side of the argument over prohibition. Neither candidate could have done much about prohibition. Both had promised to enforce the existing law as long as it remained a law. There was not the faintest prospect of a repeal of the Eighteenth Amendment. But Mr. Hoover was obviously a dry and Governor Smith even more obviously a wet. The election was to that extent a referendum on national wetness and dryness. There is no mistaking the result. Prohibition won. The "noble experiment" has made few converts in New York, Chicago, or New Orleans, but it is solidly entrenched in the Middle and Far West and in the rural South.

Finally, there entered the question of religious prejudice. This was brought in by both sides, although it is only fair to say that it was not Governor Smith's supporters who made the most noise about it. It must be conceded by any careful student of the campaign and of the election that Mr. Hoover won many votes because of his opponent's religion. We have had Roman Catholic Governors, Generals, judges, Cabinet members, and Chief Justices, but in the opinion of many tens of thousands of our citizens we are not ready for a Catholic President. The work of the Ku Klux Klan was visible. Though the organization itself was moribund its tail, like the traditional snake's, wiggled till sundown. The cheerful view of this phase of the campaign is that both candidates did their best to spread the doctrine of tolerance, and that it was not religion that turned the issue. Governor Smith would have lost had he been a Unitarian, like Taft, or a Presbyterian, like Wilson.

Why, fundamentally, was he beaten? The answer is not entirely personal. It is, in large measure, to be found in the fact that his party remained and remains substantially a party in opposition. It offered this year a candidate of great achievement, of high character, and of sincere liberalism. It did not give the voter a choice between two political philosophies. Except for prohibition, which was made an issue by Governor Smith after his party had sidestepped it, the Democracy of 1928 was little more than a diluted Republicanism. The party is in confusion; it is losing its hold even on the formerly solid South. The time is approaching when it must either disintegrate and yield to a new major party or effect a decisive reorganization. Perhaps that will be Governor Smith's task during the next four years.

Mr. Hoover will come to the Presidency with an equipment and an opportunity such as few incumbents of that high office have possessed. He will be an engineering executive for a nation and a period that demands supreme engineers. His countrymen of all parties have confidence in his character and ability. He will enter the White House with a priceless fund of good-will behind him.

The Cup that Kills

BEFORE THE DAYS of prohibition any citizen who cared to do so could drink himself to death, and many citizens did. But, except in the areas where state or local laws forbade the sale of liquor, the drinks were free from the grosser poisons. Varnish, horse liniment, and pain killer, not to mention embalming fluid and various magic cleansers, sometimes slid down thirsty throats, but they could not be called national beverages. People who got alcoholism got it by drinking too much alcohol. Obviously, it was the results of this practice that led to prohibition.

Without debating at this moment the merits of prohibition we may point out that this noble experiment, as Mr. Hoover called it, or this vicious assault upon personal liberty, as some of Mr. Hoover's opponents considered it, has brought one evil that did not exist before. It has introduced wholesale poisoning as a means of enforcing the law. It has made the Federal Government a kind of Borgia. During the first eight months of the present year 518 persons died of alcoholic poisoning in New York City alone. How many more were temporarily or permanently injured in health, or what the statistics would be for the entire country can only be guessed at.

Chief Medical Examiner Norris of New York City believes that most of the liquor sold there is poisonous. The most dangerous liquors are the cheapest. Those who can afford to pay bootleggers for beverages "right off the boat" are comparatively safe, though they may be having trouble with their livers in a few years if they keep on. But the speakeasies along the waterfronts, in the tenement districts, and where unskilled labor congregates are deadly.

The poisons that our illicit liquor contains are obviously not placed there with malicious intent by the saloon keeper. He may care less for his patrons' health than for his own pocketbook, but there is no doubt that he would sell safe drinks if he could get them and could afford to do so. New York City has attacked the problem in a manner that may be typical of the great metropolis. Its police have been instructed to arrest all proprietors of speakeasies whose commodities are violently dangerous to health. The others, it is inferred, will be tolerated.

This means, in effect, that the well-to-do can continue to drink, but that the thirsty souls who have only a few dimes to spend will have to stay thirsty. That is to say, this will be the case if New York's qualified prohibition regulations actually work. It is more likely that the liquor sold will merely be distributed more furtively. It will continue to be poisonous. It will be poisonous as long as it is the law and policy of the Federal Government to denature alcohol released for commercial uses.

The object of denaturing is to make it impossible to use the alcohol so treated as a beverage. When this succeeds there can be no complaint except from those who dislike to see good alcohol ruined. When it fails the government commits what in a private citizen would be considered manslaughter. Some prohibitionists have justified this result on the ground that it would not occur if every one obeyed the law. But is the violation of the prohibition law that the drinker commits deserving of the punishment that poisoned liquor inflicts?

If the practice of denaturing liquor or the sale of wood alcohol for commercial use were discontinued the enforcement of prohibition would undoubtedly be rendered far more difficult. But in the end the tragedies resulting from poisoned liquor may work against the very purpose of prohibition. Certainly, they are responsible in some quarters for a bitter hostility to the law that might not otherwise be felt.

Forty Million Listeners

IF THE RADIO and the international telephone have their surpassing importance, so, too, increasingly, has the art and science of broadcasting within our own borders. Already the great announcers compete for fame with the stars of what used to be called the silent drama. The slightest intonations of their voices, their favorite jokes, the artful way in which they almost but not quite become speechless with emotion when Battling McGinnis taps the Pittsburgh Pounder on the button or the Army makes a goal are known to millions. We can even guess how many millions. If we are to take the estimates of the National Broadcasting Company, recently made public, there will be, on January 1st, 11,032,855 receiving sets in the United States, of which four fifths will be in operation any night when the static is not too bad.

About one third of the population—or, according to the meticulous calculation of Dr. Daniel Starch, 41,453,496 souls—is included among the families that own sets, and something more than 30,000,000 listen every day. Hook up a President or some other national celebrity, and the whole 41,453,496 may be on hand at once. Curiously enough, there are large variations in the popularity of the radio in the different sections. New England comes first, with 43.85 per cent. of its population hanging around the loudspeaker. The South Atlantic and South Central states are lowest, with 23.95 and 20.60 per cent. respectively. Perhaps this is because the Negro population is less dependent than are its white neighbors on other people's music.

Yet, strange as it may sometimes seem, the effect of the radio in the long run will probably be to raise the quality of musical appreciation everywhere. Where one musician used to reach at best a few hundred listeners he can now, if he "goes on the air," make tens of thousands lend their ears. The effect ought to be a demand for fewer and better musicians. Incidentally, a similar result may follow from the "canned music" of the speaking—and sometimes shrieking — motion picture film.

The National Broadcasting Company, coöperating with the National Music League, has announced a plan to give young musicians an opportunity to make free radio débuts. At present a New York début costs from $600 to $1,000, and the beginning performer is lucky if he receives a paragraph in the metropolitan press. The new scheme is to have the débuts made in groups of three—perhaps a singer, a violinist, and a pianist will be on the same program. The candidates are to be chosen by a series of elimination tests, so that none but the most highly gifted will reach the final stage.

The events will have enough importance to attract the leading critics to the audition room, and at the same time the effect of the performance on a vast popular audience can be tried out. It seems to be true that some voices that may carry well in a concert hall do not go so well over the radio. Nor is instrumental music often perfectly received through the air. But, all things considered, the tests will be fair, and they will meet the democratic requirement of a career open to talent.

It is a common superstition that the age of machinery must necessarily be an age that is tongue-tied in the arts. Obviously, machinery of itself cannot raise the level of artistic or musical ability. But it may serve the same purpose, in the case of music, at least, if it broadens the audience for the gifted individual. And toward that desirable end the radio, like its predecessor and contemporary the phonograph, generously contributes.

Aërial Navies

THE ART of warfare, according to those who maintain that warfare is an art, has always been characterized by an attempt to attain a balance between the offensive and the defensive facilities. Heavier armor has been answered by sharper spears. When the offensive became too perfect, as in the case of Alexander and his Macedonian phalanx, world conquerors appeared. When the defensive had the upper hand, as was true during most of the World War, a deadlock resulted. It might be better for the peace of the world if the advantage always rested with the defense. There were months in 1917 when it seemed that this might be the final outcome, and that national frontiers might be made permanent and impregnable by lines of trenches. But the airplane has upset these calculations.

Both the British and the French air forces have recently been conducting manœuvers to determine how easy it would be to defend their capitals from an assault by hostile airplanes. In each instance it was demonstrated, according to the military authorities, that the enemy could break through and inflict enormous damage. Much of London was theoretically bombed and gassed. Paris theoretically suffered almost as dreadful a fate. The general staff that was directing the work of defense was discovered by the invaders and "destroyed" by machine-gun fire, and the city itself was exposed to a bombardment that, had it been real instead of on paper, would have been ten times worse than anything the Germans were able to inflict during the late conflict.

It has been asserted, both in Great Britain and in France, that these maneuvers have a political significance: they may be linked up with the Anglo-French understanding, and they may be a preliminary to a demand for larger appropriations for aviation forces. But there is not much disposition to question the disquieting facts that they reveal. Three-dimensional fighting has changed the whole character of warfare. Formerly an army could reach its objective only by capturing, dispersing, or disabling the forces that stood in the way. To leave an armed enemy in the rear was fatal. The nearest thing to the modern air attack was the cavalry raid, the scope of which was always limited. The machine gun would have made cavalry of small importance, even though the airplane had not.

But the airplane seems to be able to break through a hostile line almost at will. Not only can it outflank its enemies but also it can dive under them or rise above them. It can hide behind clouds and sneak through under cover of darkness. It is not possible to assemble enough defense airplanes to give complete protection to a threatened area. The mastery of the air shifts from hour to hour, almost from moment to moment.

If a war were to occur between France and Great Britain, French airplanes could bomb London and British airplanes could bomb Paris without ever fighting a decisive battle. There would be enormous and futile destruction of civilian life and property. A general war would turn Europe into a madhouse, in which the participants would be able to devastate without, perhaps, being able to occupy. Ultimately the ingenuity that produced the military airplane may be able to devise an effective defense against it. It would be rash, at any rate, for a layman to say that such would not be the case. But even a layman, that poor worm whom the experts tread under foot, can understand—and shudder at—the implications of the present situation.

Fortunately for our own peace of mind America has comparatively little to fear from an attack by air. We need not begin to worry until airplanes can cross the Atlantic from East to West with regularity and arrive with at least a few hundred pounds of disposable freight. However, we shall do well not to trust too long to the gods who protect Americans and children. We need to adapt our own air defenses to our reasonable requirements. But, above all, as the nation least exposed, we can afford to take the lead in working for peace. The bombing airplane is an effective argument for making and keeping the anti-war treaties.

Twenty-five Years After

THOUGH the airplane may arouse disquietude as a military weapon its triumphs as a means of peaceful travel and communication will probably go far to reduce the danger of war. This year we celebrate the twenty-fifth anniversary of the first successful flight, made by the Wright brothers, in a heavier-than-air machine. The twenty-five years since that momentous occasion have seen flights growing steadily longer, engines more reliable, pilots more skillful, and knowledge of conditions in the air more nearly complete. A new science of aëro-dynamics has developed. It is interesting to remember that the Wrights achieved their first success by going counter to what had been the accepted laws as to the movements of plane surfaces in the air.

Long-distance flights have become commonplace. Fatalities occur as a rule only when difficult feats are attempted or when the known rules of safety are disregarded. We may set forth on an overland tour with reasonable certainty that our chances of arriving alive and in good condition are not appreciably less by air than by railway train or by automobile.

The future will probably give us even greater security—particularly devices enabling even timid passengers to descend by parachutes from disabled planes, devices that will permit a plane to land within a small space, and some means of reducing the danger of fire. We may look for the development of more landing fields and the organization of passenger lines paralleling the main lines of railroad. This indeed is already going forward rapidly, as we have noted in a recent issue. Finally, and by slow degrees, the nation will grow more "air-minded."

Whether the ordinary individual can wholly overcome his fear of heights is a question. Some of us, to the end of time, will be unable to stand calmly on the brink of a hundred-foot precipice. Some of us will always have qualms when our plane drops into an air pocket and passengers and baggage suddenly mount toward the ceiling. But there is no doubt that the fear of the air can be greatly reduced in most of us and completely eliminated in some of us. Especially will this be true if we—and by "we" in this connection is meant, unfortunately, not the present adult generation but the one to come—can be accustomed to air travel during our impressionable years. The burnt child may dread the fire, but the air-traveled child will not dread the air.

Meanwhile it is well to remember that if the Wright brothers and the other pioneer inventors and pilots who had a part in giving mankind wings had not been willing to entrust their lives to the unknown there would have been no aviation industry and no anniversary to celebrate.

Honoring Mr. Edison

NO ONE will question that Thomas Alva Edison richly deserved the unusual honor that was conferred upon him several weeks ago when a Presidential speech praising his achievements was broadcast through forty-eight states. "In the space of a single lifetime," as Secretary Mellon said in adding his voice to the President's, "he has changed the conditions under which men live, and, more than any one else now living, has helped to bring about a new social order based upon the achievements of modern science."

Mr. Edison's inventions are so numerous that it is difficult to assess their practical effects upon our lives. But his important gifts, we may safely say, were music and light—the phonograph and the incandescent bulb. If these sometimes assume the forms of noise and glare it is hardly Mr. Edison's fault. He has been probably the most thoroughgoing inventor who ever lived. He was never content with producing a device—he had to fit every invention into the existing social, economic, and technological scheme.

It has been well said of him that when he produced the electric light he invented an industry. He began by mastering the technique of illumination of gas. He worked out every detail of producing and distributing the electric current, down to the last plug and fuse box. Ten years of heroic labor were necessary before the ideal filament was found, but in every essential respect Edison brought the electric light into maturity at a bound. The experiments were made not upon the investing and consuming public but in the laboratory.

In recent years there has been a tendency to cry down inventors, partly because they were so extravagantly cried up ten or twenty years ago and partly because with all their gifts we do not seem to ourselves to be much better or happier than our ancestors were. It sometimes appears that they have done little except enable us to run around a little more rapidly in our squirrel cage of a civilization. But the electric light, to take Mr. Edison's supreme contribution, has done more than add to the speed or intensity of life. It has done utilitarian things like saving labor and conserving eyesight. It has done beautiful things, as the illumination schemes of modern skyscrapers and the achievements of the stage-designers testify.

But it has a deeper significance. The spreading of light is symbolical of the best of modern life. Our ancestors, in caves or huts, were once prisoners of the dark. Out of the dark came the grotesque superstitions and fears that weighed them down and made their lives wretched. But our age is conquering the darkness, both physical and mental. The "night life" of our cities is still mentioned by conservative-minded people with a tone of reproach. But the better lighting of streets, homes, and theaters implies cultural opportunities that did not exist when Mr. Edison was a boy. Once the "night life" meant pure viciousness. Now it means also a real extension of civilization. Matthew Arnold spoke with authority when he described civilization as "sweetness and light."

We have had ages of stone, of copper, of iron, of steel. It is no exaggeration to speak of the present as the age of light. Light is being turned on all things—on the remote stars, on the atom, on the thoughts of men. The wavering torch, the flickering candle, remain as poetic images, but the dark world in which they burned has vanished forever. One would not call Mr. Edison a poet, though he knows how to express himself briefly and well when occasion arises. But his accomplishment has a poetic breadth that catches the imagination.

For most Americans he is a kindly old man to whom the reporters go occasionally for oracular statements and to whom merited honors are paid upon birthdays and anniversaries. That is the rôle he likes best. But the men of the older civilizations would have made him a god, or glorified him as they did Prometheus. The difference between Mr. Edison and Prometheus, however, is that Mr. Edison, unlike his ancient prototype, not only stole fire from Heaven but, in the modern vernacular, "got away with it."

A Fruitful Agreement

THE AMERICAN REPLY to the British and French suggestions for a naval agreement is an excellent state paper. It is clear, forceful, and conclusive. While there is no reason to suppose that it has "broken up the Anglo-French entente," as has been often stated, there is no doubt but that it brought to an abrupt end the scheme of the British Admiralty to put the United States in a position where it must accept limitation on the British terms or appear as an opponent to disarmament. It not only frustrated this naïve scheme, but it did so in such a way as to receive the very general approval of public opinion in all countries, including Great Britain itself.

The note is a credit to Secretary Kellogg and his associates, although it can hardly be characterized as a "great diplomatic victory." There is no particular glory in knocking a man out when he is already down, even though the exigencies of diplomacy may sometimes require it. Downing Street had already placed itself *hors de combat* by its own misdirected effort.

There has been some discussion as to whether England or France was at the bottom of this scheme. The champions of each have tried to make it appear that the other was responsible for dragging their protégé into an unhappy maneuver, and the series of notes published in France begins with one from London. It makes little difference. There was stupidity enough to go around. It may be pointed out, however, that the Quai d'Orsay has come in for little criticism, and that Britain's approval of the French thesis that trained reserves shall not be counted as soldiers, still stands. Downing Street, on the other hand, has been deluged with scornful criticism, not the least of which has come from papers of all political complexions in its own country.

Herein is the silver lining to the cloud with which the Anglo-French agreement for a time obscured the light of international good will. Not the least interesting phenomenon in post-war politics has been the increased sensitiveness of British public opinion to the maneuvers of British diplomacy. Before the war the Foreign Office carried on in esoteric secrecy and led all but a small portion of British opinion around by the nose. The public, however, seems to have taken the lesson of 1914-18 to heart. It not only insists on knowing what Downing Street is doing, but, what is more auspicious, it insists that Downing Street shall not get the country entangled in any more international agreements such as the one that contributed to the last catastrophe.

More especially British public opinion seems to have made up its mind that Great Britain's interest demands the best relations with the United States. The way in which British sentiment found such forceful expression as to compel the reluctant Conservative Ministry to sign the Kellogg Pact, was a striking example of this new turn of affairs. No less striking has been the British reaction to the more recent moves of the Foreign Office under the promptings of the Admiralty. For some centuries the basic dogma of the British Admiralty has been that any great naval power is Britain's enemy. Heretofore the Admiralty has been able to carry public opinion with it on this point and has always shaped British diplomacy toward a combination that would enable England ultimately to crush the rival naval power. Holland, France, and Germany in turn have gone down before the combined weight of British diplomacy and British guns. The United States is obviously next on the Admiralty list. And the naval experts have started out in traditional fashion to circumvent American naval power.

How dogma imposes on common sense is well illustrated by the puerile proposals that were made to Washington. It was calmly suggested that a strict limitation be placed upon 10,000-ton cruisers, the type best suited to American needs, while the construction of 6,000-ton cruisers, the type that Britain wants, should not be limited at all. It might be concluded from the nature of these proposals that the Admiralty had never heard of the Three-Power Naval Conference at Geneva. Either it pigeon-holed such information as it had, or it counted upon the opponents of naval construction in the United States to force Washington to accept the humiliation of a British straight-jacket for the American Navy.

Its calculations went sadly astray. American opinion has strongly approved the rejection of the British proposals, while British opinion has been even more outspoken in its condemnation of the action of the British Government. The net result up to the the present time has been both a vindication of the fairness of the American position in regard to naval limitation and a clear discrediting of the back-stairs diplomatic methods by which it was attempted to circumvent that position.

Super-Days And Simple Ways

THE EVER-GROWING number of commentaries on the early movements of armies in the beginning of the World War disclose one supreme fact above all others—that the contending forces were far too large for their creators to handle efficiently. For years the Germans had labored over their battle plans, but once the forces started in movement no mind or no system of minds could keep pace with the unexpected developments, and useless slaughter and ultimate disaster resulted. So, too, on the French side the armies were so vast that no one mind could direct their movements with great efficiency.

In all this blundering futility there is a lesson for modern man if he will only perceive it, a lesson not only in war but also in peace—and in it there is a lesson particularly for us in this swiftly growing America. Europe, with all her culture and her philosophies, could create a vast machine that she had not mind enough to manage. Are we in these New United States creating a machine of another kind that we have not the mind to manage? We have created prodigious factories for the making of things by the millions in mass production. Into these mass productive facilities we have drawn billions in money and millions in hands, and our philosophy is that each year's production must be larger than the last until the end of time.

Not only in the midst of our great prosperity have we invented the modern luxuries and conveniences that are conducive to slothful thinking and slothful living, but in the manufacture of those luxuries we have supplied to most of our citizens means not only for a comfortable living but also for those pleasant diversions that are not necessary to life or even to happiness but that prevent all seekers of comfort alone from aspiring to higher and perhaps more intangible self-improvement. We have flattered and pampered the body but have given the mind only pleasant anodynes.

Clearly, then, the problem is in education—in education not only for the improvement of those who are satisfied merely with perfect brawn, but education that will be sure to develop the superminds that we need to control this vast machine built by our feverish hands. And we need more—we need a new philosophy that will teach that a constructive thought is as useful as a perfect machine.

The Conquering Automobile

IN 1895 there were 300 registered automobiles in the United States. By 1915 the registration was about 2,500,000, and some manufacturers were gravely discussing whether or not the saturation point had been reached. To-day, as President C. F. Kettering of the General Motors Research Corporation pointed out in a recent speech, the rate of production is 3,500,000 a year, or about 1,000,000 more than the total registration thirteen years ago.

For the purchase of these cars we pay out $4,000,000,000 a year, or more than $33 for every inhabitant—man, woman, and child. The costs of operation bring the total to a still more impressive figure. The automobile industry uses 16 per cent. of the nation's steel, 85 per cent. of the rubber, and 85 per cent. of the plate glass. Barring a sudden change in technique the industry is probably stabilized. The annual sale of cars will remain approximately stationary in proportion to population.

But the automobile has still to be put to its full use. Mr. Kettering stated that cars are produced to-day that are capable of safe speeds of sixty and even seventy-five miles an hour in the hands of average drivers, provided—and the proviso is of course a large one—they had a clear road. In Mr. Kettering's opinion express highways, reserved for high speed traffic, are bound to come. The idea is not a new one, but it is of increasing importance. The principal argument against it is the expense, especially in congested territories where land is costly.

Yet it is in just such territories that the swift movement of traffic is most profitable, and even most essential. The Regional Plan Committee of New York City has estimated the loss resulting from traffic congestion at $1,000,000 a day. This occurs chiefly in city streets. Yet it could certainly be relieved if not eliminated by express highways leading out from the congested centers.

City planners and regional planners are concentrating upon this problem. It is in this field, rather than in improvements in machinery, that we may look for the next great developments in transit and transportation. Our conceptions of highways are still antiquated. They need to be brought up to date.

Voices Across the Sea

THERE IS sometimes some question as to how much modern means of communication do to make us wiser, better, or happier. We arrive more quickly than our ancestors used to, but it is by no means certain that we make any more profitable use of our time after we get there. The telephone and the radio have made it at least theoretically possible for the entire human race to listen to a single speaker at the same moment, but this does not of itself guarantee that any speaker will have anything to say that justifies so much attention.

But in the field of international relations the new ability of peoples and governments to talk directly with one another does seem to be of immense importance. The other day President Coolidge and King Alfonso of Spain exchanged greetings over the new telephone connection that links Washington and New York with Madrid. Let us assume that such a conversation had been possible on the eve of the Spanish-American War, when Spain was willing to concede practically everything that the United States was in a mood to demand. It is hard to believe that the war could have taken place. The cable and telegraph did indeed exist. But cable and telegraph messages take on a tone of finality and formality, if only because they are written down and become matters of record. They leave out the inspiration of the moment and the nuances of the human voice. There is no glow about them. They inspire stiltedness in the most warm-hearted.

But, as the progress of invention in this field clearly indicates, the speaking radio will soon be supplemented by a practicable seeing radio. We shall turn a switch and a man in Spain, in France, in Germany, in China even, will be as visible to us as though he were in the same room. Carry the possibility a little further. Groups of people as well as individuals may be brought together by television. Plenipotentiaries may meet without crossing an ocean or a boundary. An international conference may be held with each member remaining in his own capital.

Obviously, no machinery of this sort can be of much use if a nation or a government is already bent on resorting to war. But a study of international crises seems to indicate that there is more of the accidental in wars than we used to suppose. It is only rarely that governments deliberately conspire to shed blood. It may be doubted that either the German or the Russian governments, who were clearly the worst offenders in 1914, sought war as the only desirable outcome of their policies. What seems to have happened is that they were edged toward war by their refusal to yield during any of the smaller crises that preceded the great crisis. Their precipitate action during the final stages of the negotiations was largely due to their belief that war had already become inevitable.

Delays in communication certainly had much to do with bringing about this situation. In the end "honor," consistency, whatever names one cares to give to the excuses that statesmen find when they reach an apparent impasse, forced the issue. This is not to say that Germany did not desire to dominate Europe, or that Russia did not hope to control the Balkans and to seize Constantinople. But a full and frank discussion, bringing the responsible statesmen face to face, might have exposed the folly of these ambitions. It certainly would have mobilized popular opinion in favor of peace, for the will toward war thrives upon ignorance and misunderstanding.

If we believe in the theory of the anti-war treaties we must believe in the ultimate reasonableness of human nature, and we must welcome hopefully any system or device that gives reason an opportunity to exert itself. Make diplomacy public, bring the governments of the world instantly into the same council room in time of emergency, and jingoism will no longer be able to work its will unhampered behind national boundaries. The inventors of the radio may in the end do more for peace than all the peace societies.

Reviving British Coal

NOT THE LEAST of the post-war difficulties of England was the fact that during the war period oil supplanted coal as the world's most sought-after fuel. The British Empire was in a sense built upon coal. The British domination of the seas reached its greatest effectiveness when coal-burning steamships superseded sailing vessels. England has enormous deposits of coal lying close to the seaboard, where they are easily accessible to British shipping.

Not only was this an advantage in securing fuel for their own use, but it afforded an easily adjusted and always profitable cargo for outgoing British ships. England's great demand has been for foodstuffs and raw materials—both bulky articles. Her exports have been for the most part finished goods, which take much less space. Coal could always be used to complete the ship's load. It could be sold in almost any port of the world or deposited in any of the British coaling stations scattered along the world's trade routes.

The gasoline motor had already started a revolution in motive power when the war gave it an enormous impetus. At the same time, the perfection of the Diesel motor, suitable for use in large ships, dealt another blow to the prestige of steam. The two together relegated coal to second rank as a world fuel. This was a serious matter for England because, although she is rich in coal, she possesses no oil deposits whatever. Her industrial statesmen made a determined effort after the war to secure control of the world's oil reserves and would have succeeded but for the opposition of the United States. While the battle for the control of these reserves still goes on, it has reached something like a state of equilibrium.

Britain is therefore turning her attention once more to her coal resources. At a World Fuel Conference held in London, out of 175 papers presented, two thirds dealt with the possibilities of coal. Perhaps the most interesting subject was that of low temperature carbonization. Extensive experiments that have been carried on near Newcastle have resulted in the production from a ton of coal, worth $3, of various products—including "motor spirit," parafine, creosote, and pitch—of a total value of about $4.75. The cost of production in the experimental plant was approximately $1 a ton. It is figured that on a commercial scale this cost could be reduced to a little more than 25 cents a ton, leaving a net increase of nearly 50 per cent. in the value of the coal used. Additional savings are expected from the more efficient use of coal under these circumstances.

Already English billboards display exhortations to use motor spirit made from British coal. Doubtless this will be followed by other efforts to revive the waning industry of the British coal fields.

Constitutionalism in Italy

SINCE the Fascist party seized the supreme power in Italy, one step after another has been taken to "constitutionalize" the Fascist régime. It could not be set into the framework of the old constitution without either a surrender of power or a fatal concession to democracy. Fascism is inherently revolutionary. Revolutions do not proceed according to constitutions; they cut across them.

If Fascism could not go to the constitution, the constitution must come to Fascism. So the Italian Parliament has been reduced to an appointive, advisory, and ratifying body. Popular elections have been suppressed as incompatible with the spirit of Fascism. All power in the country and the regulation of all matters down to the minutest detail have been centered in the hands of the Fascist chief. All opposition has been firmly suppressed or driven from the country. The dictatorship has been consolidated, and its position is practically unassailable—so long, at least, as Mussolini remains in charge.

It remained to give the new régime the added respectability of constitutionality. Dictatorship in practice neither needs nor heeds constitutions. But Mussolini has clothed himself, as it were, in an aura of that glorious and intangible thing known as Fascism. Fascism needs a constitution even though Mussolini does not.

This concession to the forms of party action runs through the whole Mussolinian scheme. In the government, instead of frankly assuming the position of dictator, Mussolini prefers to assign himself as chief of seven different ministries. In the party, it is not Mussolini but the Grand Council that is supreme. Mussolini merely appoints and dismisses members of the Grand Council as he sees fit. However, as Mussolini chooses to have his party side superior to his governmental side, it is this Grand Council that has been selected as the supreme organ of the Fascist state.

At a series of meetings held during the third week in September, the Grand Council went solemnly through the forms of debate on a proposal to write its own supremacy into the Italian Constitution. It took several night sessions for it to convice itself, but the final decision was unanimously in its favor. There has been submitted to Parliament, where a like favorable vote may be counted upon, a project of law that contains the following provisions:

The Fascist Grand Council is to be the supreme organ of the state.

It will be made up of a score of officials, all of whom are apointed directly or indirectly by the Chief of the government.

The Chief of the government may call in any other men he likes as members when occasion demands.

The discussions of the Council are secret and no member can be arrested or disciplined without permission of the Council.

The Council will deliberate (not decide) on the names of Deputies who are to be elected to Parliament; on the acts and officers of the Fascist party; on any question of constitutional character; on the succession to the throne and the powers of the king; on its own membership and that of the Senate and Chamber of Deputies; on relations between the State and the Catholic Church; on international treaties; and on the acquisition of territory.

Lastly, the Grand Council is to keep a list of names of men to present to the King from which he is to appoint a new Chief of the government in case of a vacancy in that high office.

Thus are Fascism and the Italian state completely fused. This, at least, is the Fascist characterization, though the reality is more like the lying down together of the lion and the lamb. Fascism has long since imposed itself *de facto* on the Italian state. It has now imposed itself *de jure*.

Fascist Sophistry

IT IS NECESSARY to be thoroughly imbued with the Fascist sophistry in order to see in this arrangement anything but an elaborate cloaking of personal dictatorship in fantastic political vestments. So long as the final word on every matter in Italy rests with one man, no amount of political machinery can outweigh the fact that the country is governed by a dictator.

Yet this so-called "constitutionalization of Fascism" calls forth a fervent paean of praise from the Fascist chorus. With all the zeal of religious enthusiasts the "philosophers of Fascism" point out what a magnificent step forward is this, the ultimate triumph of the revolution.

There is something almost pathetic in

the devotion of the Fascisti to Fascism. For them Fascism is the accumulation and the final expression of all the virtues. Mussolini is not a dictator and the Fascist leaders are not an oligarchy dominating the nation. They have so long insisted, that they have come to believe it themselves, that Fascism is a union of all "clear-sighted" Italians for the rejuvenation and the advancement of Italy. The parallel to the Bolshevist seizure of power by a "class-conscious" minority is complete.

And the Fascists are as quick to characterize as "Bolshevist" everything that does not harmonize with their creed, as are the Bolsheviks to characterize as Fascist everything that does not appeal to them. Both alike find it necessary to assume that they represent the real will and best interests of the people whom they govern. Both alike refuse to give that will and those interests any chance to express themselves. Only the devotees are "clear-sighted."

In this blind devotion of the Fascist is to be found the saving grace of Fascism. Many Fascisti besides Mussolini get a real spiritual thrill out of acting up to their high principles. Charges of graft or material exploitation are heard against only a few of those in power. It is this combination of reiterated high purpose and effective action that not only makes the Fascist régime tolerable to the mass of Italians, but has even secured for it a measure of popular approval.

One thing that the new constitutional position of the Grand Council does, is to furnish a categorical answer to the question: "After Mussolini, what?" It is provided that the Grand Council shall submit to the King a list of names of suitable candidates from which he shall name Il Duce's successor. Hereafter all Fascisti may be depended upon to give this ritual answer when the awkward question arises. The sophistry of the whole matter lies in the fact that Mussolini *has* no successor. He is a political phenomenon such as occurs only once in a century or two. Fascism without Mussolini would be but an empty shell. It is not inconceivable that the momentum already acquired might carry it for some years after his death. But it is inconceivable that a successor who might step into his place could carry on the movement as he has carried it on.

Unless Fascism is to reverse all the lessons of history, it will lose its religious and devotional character as the men who created it give place to successors who cannot be expected to share the fanatical zeal of the founders. The good there is in Fascism is bound to lose its effectiveness with the passing of men and years, while the bad will become more and more oppressive. The Italian people will then have to shake themselves free from the shackles of the Fascist sophistry and find a more effective answer to the question: "After Mussolini, what?"

Gas in the Next War

DAVID STARR JORDAN once said that for a people to talk of "our next war" was the same as for an individual to talk of "my next murder." However, there is as yet no assurance that there will not be "next" wars, for other nations if not for ourselves, and there is every evidence that these wars will assume forms more horrible than any yet experienced. The International Red Cross Conference, meeting recently at The Hague, considered the whole problem of protecting areas of civilian population against gas attacks. The conclusion was that there were no adequate means of protection. If the enemy used gas the civilians, like the soldiers, would have to suffer.

As a despatch from The Hague tersely announced, "The entire subject was made more complex because the properties of several gasses known to exist for war uses at the present time are secret." It was pointed out that gas was an especially useful weapon for the poorer nations, or for those not permitted to maintain large armaments. The Germans, as the recent tragedy at Hamburg indicated, are undoubtedly experimenting with gases. This may not be all that is going on under cover, though not necessarily in Germany.

There has been much talk of the use of bacteria. Public opinion everywhere may condemn such a weapon in time of peace. We cannot be sure, however, that it will not be employed and countenanced by the people of a nation that feels itself fighting for its existence. The purpose of conducting a war is, after all, to win. There is no known instance in which a nation has allowed itself to be defeated out of pure chivalry. The more desperate the struggle, the more desperate the means that will be resorted to. Spanish influenza came unbidden out of the World War. In the next great war we may see scientists manufacturing in laboratories a far worse disease, immunizing their own populations against it, and sending it out to fight for them.

The only practicable proposal that came out of the conference was that urged by the American delegates, that the subject of warfare by gas and by bacteria be given the widest possible publicity. Whether publicity in time of peace will prove of much use after war has begun may be doubted. But it is important for every one to understand in advance exactly what modern war involves. We must stop thinking in terms of troops marching to military music in picturesque parade formation and begin to think of the creeping and horrible death that a struggle between nations is now likely to involve. We must change our whole set of military figures of speech. Once a nation's heroes marched away to protect the people at home. Now every one, even the infants in arms, will have to do the suffering and risk the dying, even though having no share in the fighting.

Not So Little Old New York

PERSONS who rejoice in large figures must have been glad to know that New York City, according to the Census Bureau estimates, passed the 6,000,000 population mark on July 1st. To be exact, it had on that date, unless the Bureau erred, 6,024,761 inhabitants. This represents an increase from 5,970,800 in 1927; 5,620,048 in 1920; 4,766,385 in 1910; and 3,437,202 in 1900. One interesting detail is that the last-mentioned total is only 400,000 less than the present estimated population of Chicago. Another is that the ratio of increase for New York is less than that for Chicago, Philadelphia, Detroit, or Cleveland. Since 1920, New York has added to its population by about one sixteenth, Chicago by about one tenth, Philadelphia by a little less than one tenth, and Cleveland and Detroit by between one third and one half.

A city is much like any other organism. If its environment remains about the same its rate of growth slows down with age. The exception is a large one, for a sudden stimulus may transform a peaceful old town like Detroit into a metropolis, or submerge historic Berlin in the rush and vulgarity of triumphant modernism. But we may still assume that when a city gets into the millions it advances into a region of diminishing returns. Traffic congestion, transportation difficulties, and high rents are walls that keep out even the willing newcomers. The urban area becomes more and more like that twenty-five ton animal that flourished some 20,000,000 years ago in what is now the Desert of Gobi, and whose remains Dr. Roy Chapman Andrews of the American Museum recently unearthed. Its body becomes too large for its brains, and it grows too unwieldy to go anywhere, do anything, or have very much fun.

Analyses of the census statistics show that while our urban population continues to grow at the expense of the rural districts, this growth is at the lower rather than the upper end of the urban scale. There has been a very considerable development in cities of less than 100,000 population, which are not cities at all in the New York significance of the word. There is reason to believe this will continue, since for most of the inhabitants a city of between 50,000 and 100,000, or even less, offers practically all the advantages of the metropolis. A few more inventions like the talking movie, and Broadway will have little to sell that Main Street cannot duplicate.

Yet New York has intangible values

that smaller cities lack. It is likely to remain for some decades—perhaps until Chicago can catch up—the financial and cultural capital of the nation. It will remain a market place to which the best the country can produce will be brought. It will be the intermediary between Europe and America. It will be the place to which the back-country American, who is, after all, the most important American there is, will go when he wants excitement. It will keep, no doubt, that delightful freedom, that appalling and amusing wickedness, that irreverence that is at once the joy, the despair, and the detestation of the rest of God-fearing, home-loving America.

But it will probably become—in fact, it is every day becoming—more and more a city one is glad to visit but in which one wouldn't care to live. Even now it is in no sense a livable city. One wonders at those of the 400,000 newcomers since 1920 who came to New York voluntarily rather than because they happened to be born there. A few thousand of them may have made spectacular successes of one sort and another, and to be a success in New York is thrilling. But what did the others get out of it? This is a question that more and more people will be asking as time goes by. Eventually it will doubtless be found that the metropolis doesn't mean as much as it used to, largely because swift travel and instantaneous communication have spread most of its advantages over the whole face of the land without carrying the accompanying disadvantages along with them.

Was Malthus Right?

A CENTURY AGO most Americans believed that it would be hundreds of years before the great West was fully settled. The settlement of Africa and South America seemed even more remote. But now we have, in the opinion of some economists, an agricultural problem more baffling than any that figured in any political campaign this year. Not only are the once waste areas of the earth being more and more completely utilized, but the time is perhaps in sight when they will begin to yield diminishing returns. The World War may have marked the beginning of the end of the period of lavish plenty that culminated in the late nineteenth century.

Sir George Handley Knibbs, of the University of Sydney, Australia, has recently published a book on "The Shadow of the World's Future," in which he poses a very critical question. "The extraordinary increase in the standard of living which has characterized the last few decades," he points out, "must quickly be brought to a standstill or be determined by the destructive forces of human extravagance. Very soon world politics will have to face the question of whether it is better that there should be larger numbers and more modest living or fewer numbers and lavish living."

Obviously, the first effects of an increase in population beyond the present limits would be to alter our food habits. We already feel the pressure in the rising prices of meat. The vegetarian nations of the Orient doubtless became so because they could not afford the pasturage that the food animals require. The sacredness of the cow in India may have had a very practical significance. But whether the nations of the Occident, with their far stronger grip on the actualities of life, will follow in the path of the Orient seems doubtful.

Every rise in the standards of living in the Occident has been followed by a decline in the birth rate. The old-fashioned family of ten, twelve, or more is no longer common among the middle classes in any American, British, or Western European nation. It was this development against which Colonel Roosevelt railed under the name of "race suicide." If is, of course, dangerous to a particular race only if that race keeps its birthrates down while other races allow theirs to continue undiminished. A very real possibility is that the Oriental nations and races will continue to multiply after the Western peoples have got themselves down to a basis of bare reproduction. The future has two menaces, therefore—the menace of starvation, or a greatly lowered standard of living; and the menace

The Real Senator Borah

Twenty Years in Washington Has Not Weakened Him

HENRY F. PRINGLE

THROUGHOUT the decades he has been in public life William Edgar Borah, of Idaho, has faced, apparently undisturbed, a constant bombardment of derogatory adjectives and phrases. The mildest of these have described him as "inconsistent and destructive"; the strongest as "the greatest trimmer in the history of American politics." The liberals have hailed him as their leader only to damn him, the following year, for a conservative. The conservatives, having rallied to his banner for some battle, have later gazed with horror at his friendly attitude toward Russia and shuddered because of his Bolshevik tendencies. At one time or another he has disappointed nearly every faction that had called him great, and for ten years it has been bromidic to refer to him as "The Lone Rider," "The Solitary Horseman of the Senate," "The Lone Wolf." Yet though he has consistently been at odds with the potentates of Republicanism, except when seeking reëlection to the Senate, he has always refused to bolt his party.

"What a splendid Democrat he would make!" many a Jeffersonian has wistfully remarked in the Senate cloakrooms after Borah had been found in Democracy's camp on an important issue.

"What a *Republican* the son of a gun might make!" has been the growled reply from an angry, chagrined member of the G. O. P.

Being a highly intelligent person, less given to emulating the ostrich than are other men whose calling is practical politics, Borah is well aware of the criticism to which he is subjected. Twenty years of office-holding cannot fail to thicken the skin of the most sensitive person—and Borah has never been sensitive. But he still resents the accusation that he is inconsistent and was both angry and hurt when a writer called him a trimmer.

"I follow issues, not men," he protested. "My record shows no inconsistencies of principle. I am a Republican, although many people may not think so, and I have never advocated anything in the Senate of the United States that cannot be found in the teachings of the Republican party."

Perhaps no man, if he is active at all, can remain in Washington for so long a period and not face charges that he has contradicted himself. Borah, looking back on his career, feels that he has been faithful to his credo, that he has voted in strict accordance with two or three firmly held beliefs. From his point of view there is no vacillation in the fact that he opposed the Woman Suffrage Amendment on the ground of states' rights and persuaded himself to support the Eighteenth Amendment for the identical reason. He cannot see why people are puzzled when they recall that year after year he has been heard in behalf of disarmament and world peace—but fought the greatest battle of his life to defeat the League of Nations and the World Court. He can justify, and does so fairly plausibly, his early efforts to end the abuse of children by industry and his opposition to the Child Labor Amendment. Senator Borah admits no inconsistencies, not one, in his years on Capitol Hill. Not even the fact that during a campaign he never bolts, that then he is always on the band wagon, is illogical to him.

"They say," he told an interviewer, "that I have been a Republican only during campaigns. Well, in campaigns parties are proper and desirable. I haven't felt that I should go with the party, against my convictions, on questions of fundamental policy."

In other words, Borah is a follower only

IT'S NOT ALL WORK
The Senator, riding his mount "Governor" in Rock Creek Park, Washington, D. C.

when it is absolutely necessary. Thus in 1920, soon after the Republican party had won its glorious victory (in which Borah assisted) and the Ohio gang was sweeping on to Washington, he answered with reluctance a request that he confer with Warren Harding. The President-elect, who had been a fellow-Senator and who greatly admired Borah's superior mentality, invited him to become the Administration leader.

"Mr. President," he is said to have replied, "you can get along without me, but I cannot get along without my views."

In campaigns, however, parties are "proper and desirable," and Borah, though he may rock the boat, never upsets it. It was his belief in party government, his conviction that sudden revolts are futile, that caused him to remain in the fold when Theodore Roosevelt was forming the Progressive party in 1912, when Robert M. La Follette chose independence in 1924, when Senator George Norris, of Nebraska, was being urged toward revolt last spring. The beliefs of these men were, for the most part, Borah's own. But he had no desire to destroy the organization when he felt powerless to replace it. So he feels today; and it is to be hoped that this truth will never penetrate the minds of his party colleagues. If it does, Borah's influence as a constantly potential menace will vanish.

When the history of Borah's era is written he will doubtless be listed among those whose talents have been solely negative. Indeed, he finds his own greatest satisfaction in the recollection of combat against what he has conceived to be dangerous to the welfare of the United States, unconstitutional, or in violation of the tenets of the nation's founders. His highest claim for credit, he once said, is "for what I may have helped to prevent." Examination of his record discloses, none the less, that Borah has often spoken in the affirmative. His voice has been heard urging world peace, limitation of armament, justice for small nations, amnesty for political prisoners, honesty in government, economy, tax reduction, and the preservation of individual liberty for man.

It is the fashion, these days, to lament the passing of giants that roamed the aisles of the Senate Chamber. Once upon a time, it is held, all were mighty men whose influence spread to the four corners of the earth, whose voices had as many tones during an oration as the organ in a Broadway motion-picture cathedral, who were profound in their scholarship. Undoubtedly, this is an exaggeration born of sentimentality for the good old days that will never return.

Yet there lingers about Borah, for all that his ideas are modern, a flavor of those probably mythical figures. In manner, in bearing, in presence, he was born to the toga. He is the stuff from which the fantasies of legend are spun, and it is pleasant to fall in with the notion that he is "the last of the giants." His speeches bristle with references to Washington, Hamilton, Jefferson, Burke, Gladstone, and Pitt, while the average Senator feels erudite if he can quote correctly from Lincoln's Gettysburg Address. Borah has been deeply influenced by these men, and the basis of his political philosophy rests, very largely, upon the conceptions of Washington, Hamilton, and Burke.

One cannot watch him in action on the floor of the Senate, however, without wondering whether he has not been influenced, too, by Edwin Booth, whom he walked miles to see in his youth. In all great public men there is a touch of the histrionic, and Borah with his over-long hair, his grace of gesture, his musical voice, his tendency to view with gloomy alarm, might well be a tragedian from some play. One is not surprised that, as a boy, Borah brooded over Shakespeare and yearned to join a traveling troupe.

Even without these talents, which pack the Senate galleries when he speaks, Borah would be an outstanding figure in Washington. As chairman of the Senate Foreign Relations Committee he is an ex-officio Secretary of State. He is the best orator in the Senate and has few equals in debate. He has a mind that can grasp the essential facts of some problem and the ability to state them clearly and eloquently. His long period in the Senate—he was elected in 1907 and has served continuously ever since—has given him a wealth of background. Add to this his refusal to speak unless he has something to say, and one understands, in part, why Borah's voice carries farther than that of any other man at the Capital, save the occupant of the White House alone.

II

Early in 1908, after he had concluded one of his first speeches in the Senate, Borah met a more experienced legislator in the corridor. The man looked at him with mingled respect and amusement.

"You were right in what you said," he remarked. "But you can't do that here and survive."

There were other men who told him the same thing, who warned him that it was better to be reëlected than right. And the fascination in Borah's career lies to no small degree in the fact that he has defied several of the most sacred rules of politics. He has even preferred being right to being President, and his name has never been presented to a national convention, although every four years since 1912 there has been a minor "Borah boom." On the other hand, he has been returned to the Senate for four terms, and this, in the face of his record, is nothing short of a miracle to many of his associates.

For Borah, whether he has always been sound or not, has been strangely honest with his constituents; and for a politician to be honest, writes Frank R. Kent in his latest book, "Political Behavior," is suicidal. Borah has fought predatory business, Mr. Kent concedes, but to a man from Idaho this was not dangerous, since there are few large corporations in that Western state. Had Borah been the representative of an Eastern state, he insists, his service in the Senate would have been limited to one term. To prove his point Mr. Kent points out that fifteen years ago, in the United States Senate, Borah criticized his party for pretending to champion the Negro, when actually most Republicans felt that it had been a grave error to give him the vote. Such a speech was possible for a man from Idaho, where the Negro vote is virtually non-existent. No Ohio or Indiana representative could possibly make statements except in praise of the Negro.

I do not know the exact speech to which

Mr. Kent refers. In March, 1914, however, Borah exploded that the Fifteenth Amendment was "a dead letter" and that "writing it into the Constitution" had been "a grave mistake." It was a measure passed "in retaliation and revenge." No race could be lifted so quickly out of "a thousand years of savagery and barbarism, of three hundred years of slavery." The Negro could not be expected "to perform all the duties and obligations of citizenship of a highly civilized republic!"

Obviously, this was not pleasing to the Negro brethren in the G. O. P. Obviously, too, it was safe enough for Borah so to speak, since the number of Negroes in Idaho was negligible. But what, in fact, was the central theme of Borah's address on that day? It was not the Negro question at all, but woman suffrage; he was opposing the Woman Suffrage Amendment on the theory that it could not be enforced any more than can the Fifteenth. In the retrospect of history some of the predictions that he made are absurd. An advocate himself of equal rights, Borah made the flat statement that changing the Constitution was the "most impractical and impossible way" in which to achieve it. He went on:

> Let me say to the good women of this country that I believe after they have fought for fifteen or twenty years for an amendment to the Constitution . . .. they will come back and make their appeal to the individual states . . . and in all states where it is not met with the insuperable barrier of race conditions women will be given the right to vote.

As prophecy, this was slightly idiotic. But I offer it in answer to Mr. Kent's assertion that never, except in the most trivial way, can a politician be frank to his constituents. Borah took a grave risk in opposing the amendment, since the women of Idaho had been voting for more than fifteen years. They undoubtedly had the power to decree his defeat when he should again run for the Senate. During the two or three years that followed, the movement for the extension of suffrage by amending the Constitution gained momentum, but the Idaho Senator continued to fight it. In 1918, it was his vote that played a large part in defeating the joint resolution, and the next fall the suffrage workers swarmed into Idaho.

The local Republican organization, anxious to elect the state ticket and perturbed because Borah was seeking reëlection, was soon in a high panic. The leaders telegraphed to Washington that he had a perfect right to permit his own defeat, but that it was treason to drag every one else to disaster with him. Why not be reasonable? Why not intimate that he had an "open mind" on the amendment?

"I won't do it," replied Borah, in effect. "If you got into bad company by having me on the ticket it's your own fault."

Nor has this been the only occasion when Borah has dared to differ with his constituents—a course he has defended, "since otherwise an elected representative is merely a messenger." The people, he points out, can refuse endorsement on election day if they disapprove. He fought the soldier bonus although the proportion of ex-service men was probably as large in Idaho as in other states. He was one of the first to attack the McNary-Haugen bill offered by the farm leaders as a panacea for all the ills of the soil. He has even said that the farmer, while unquestionably needing assistance, is not so aroused as are "those who farm the farmer," meaning the professional leaders. And of course he suggested recognition of Russia when, in the farm states of the Northwest as well as in New York and Boston, respectable citizens peered fearfully out into the dark in the belief that Soviet spies lurked in the gloom of every shadow.

III

The extraordinary hold of Senator Borah upon the people of Idaho, a strength that has survived the extreme displeasure of the state machine, is certainly not due to any complete harmony between his mind and the collective one of his supporters. The explanation of Borah's strength lies partly, I think, in the character of the man himself—if an American politician is really big he can dare to have a mind. But a clue is to be found, also, in the universal inclination of Americans to believe that what is well known is necessarily right and that the man whose name is familiar to all is undoubtedly the best-qualified for any post he may desire.

There is an element of local pride in it all, too; Borah is one of the great figures in Washington. He played a greater part than did any other one man in shaping, at Kansas City, the platform of his national organization. His utterances are debated, since he is now chairman of Senate Foreign Relations, on the Quai d'Orsay and in Downing Street. The Washington correspondents are always at their posts when he speaks, and soon the cables hum with his words. Borah brings to the state of Idaho, in brief, more publicity in a single session of Congress than all the chambers of commerce in her widely scattered cities can accomplish in ten years. It is gratifying to Idaho, a state without political significance and ignored during a Presidential campaign, to know that her senior Senator can disturb, if he chooses—and he usually does—the sleep of Presidents and Secretaries of State.

Boise has its main street with stores and offices, one or two hotels, and several movie theaters. On this street is located, also, the Club Café, a restaurant of the type to be found in every small city in the land. Most of them have proprietors who are Italian or Greek—I do not recall his nationality in Boise. On the plateglass window is lettered "Ladies Invited." At the cashier's desk presides an astonishing blonde, and near her is a bowl of toothpicks. There is a lunch counter on one side, where meals can be served with additional speed.

Nearly every summer day at noon eight or ten of Boise's leading citizens gather at a table reserved for them at the rear of the Club Café. Among them is the manager of the local baseball team, whose avocation is the science of politics. There are two or three lawyers, a bank president, several business men, an editor, and the political writer of a Boise newspaper. Unless he has been called out of town, one

"NO!"

Senator Borah discusses with newspaper men his refusal to run for the Vice-Presidency in the campaign of 1924.

of the round-table lunchers is certain to be William E. Borah. The unofficial motto of this informal organization, "We Disagree," is peculiarly appropriate to Borah's career, and he does not miss a session if he can possibly avoid. it.

The slogan is no empty one, for several of the men who attend are ardent wets and one or two are Democrats. Borah's devotion to prohibition is repeatedly a subject for discussion, and his theory that modification of the Volstead Act is nullification is subjected to spirited attack. On the whole, however, the Senator dominates the luncheons.

It is an unusual summer when Borah fails to get back to Boise for at least a few weeks. He was there this past summer, despite the convention and the campaign, in which he took an active part in behalf of Herbert Hoover. Borah's strength in Idaho is more easily understood when he is thus seen in his native habitat. His life is that of the average small-city lawyer, except that he lives more simply. A man of moderate means who is almost wholly dependent on his Senatorial salary, he found it necessary to rent his home in Boise. Now he lives where he can, usually in the home of some sheep-rancher who is away. He keeps no car and goes to his law office on the bus, or, if she chances to stop for him, in the automobile of his more plutocratic secretary.

In Boise, as in Washington, Borah goes out comparatively little. He is not in the least unsociable, as his attendance at the Club Café luncheons shows, but he finds his own company excellent. In Washington he might be a social lion. In Boise he is deluged with invitations to dine. In both places he prefers either to read or to ride horseback, his only form of exercise. Whether he rides through the hills around Boise or through Rock Creek Park at the Capital, he looks for all the world like some obscure rancher. Nothing could be more ludicrous than Borah in riding breeches, neat boots, or a derby hat!

His law office in Boise is on the second floor of a "brick block" some distance from the main street and is as dusty, as drab, and as shabby as that of any rural "attorney at law." The occasional visitor faces no barrier of smooth private secretaries. The door to Borah's private rooms is usually open. Seated behind his desk, shuffling the conglomeration of papers, reading his mail, there is nothing of the internationally known statesman about him.

Yet he is impressive enough. The hair, which he wears rather long in back, is growing a little gray but not in the least thin. His eyes are, I think, the outstanding feature of his heavy face—blue, alive, good-humored. His voice is a little thick and, in conversation, is low. His fingers are short and stubby and they move constantly. First he arranges and rearranges the papers in front of him. Then he picks up an old-fashioned pen, dips it in the inkwell and writes, over and over again, "William E.," "W. E.," "W. E. B.," or "William E. Borah." Autograph hunters seeking a specimen of Borah's signature would have only to search through his wastebasket to find enough for a lifetime.

When seen informally—off the stage—Borah is far less austere, far less gloomy than he appears in his photographs or when he is in action on the floor of the Senate. He frequently smiles and can tell a story gracefully. His sense of humor may be a shade sardonic, but it is real enough. One day last year Senator Couzens, of Michigan, who made innumerable millions with Henry Ford, met Borah in the Senate Office Building. He held out his hand in petition.

"Please, Senator," he said, "I need a dollar for lunch. I left my wallet at home."

Borah frowned. "That's the same old story, Couzens," he replied. "The truth is, you're broke."

I cannot vouch for another of the Washington anecdotes concerning Borah. Its artistic perfection as an explanation of his character is, in fact, evidence that the incident never occurred. According to the story, he received, during the late spring of 1924, word that the nomination for Vice-President was his if he wanted it. Since he had been offered the post in 1916, when the G. O. P. was attempting to heal

SENATOR AND MRS. BORAH
The man from Idaho is often seen in Washington even when Congress is not in session.

the split between the Progressives and the old-line Republicans, and again in 1920, he was not greatly impressed. But he went to the White House, of course, when President Coolidge asked him to call. The President is said to have invited him to "take a place on the ticket."

"Which place?" Borah is supposed to have answered.

It is said in political circles that Borah has more friends among the Washington correspondents than has any other member of Congress, and this, I think, can be attributed to two things: an intangible but very definite charm, and the fact that, in conversation, he is rarely discreet. He probably said things to every newspaper man in Washington—as he did to me—that, in print, would have caused as much excitement as an announcement by Andrew Mellon that he proposed to vote the Socialist ticket.

He is popular, too, because he is able to discuss subjects apart from his official life. He reads voluminously, chiefly history and biography, and many an author has been pleased, if a little surprised, to receive a brief note commenting on his book. Borah's rooms in the Senate Office Building are in a remote wing in the basement, possibly because he likes to be by himself. But they are frequently the scene of long discussions among the correspondents and the Senator. They differ little from those at the Club Café in Boise.

Any one who has heard Borah speak is aware that his mind is alert and facile. He has not, perhaps, the fire of Jim Reed at his best, and his voice may lack the full resonance of William Jennings Bryan. In debate, however, he has rarely been excelled. He is happiest when the Senate Chamber resounds with "Will the gentleman from Idaho yield?" when a dozen excited members clamor for attention, when the wrath of the Democrats is equaled only by that of Borah's fellow-Republicans. Even when he knows that he will speak for an hour to sum up a debate that may have been raging for months, he has only a few notes to guide him. And it is a tribute to the clarity of his intellect that the stenographic records of these extemporaneous orations are as convincing, in cold type, as with the assistance of voice inflection, gestures, and the commanding personality of the speaker.

It is only over a long period of years that Borah seems illogical—never during one speech or one debate. Only then does one discover that he has praised the Jeffersonian advocacy of states' rights and, a little later, has called Alexander Hamilton probably the greatest genius in government of all time. One feels, after reading scores of his speeches, that Borah falls short of being a reasonable man. He is often obstinate, and he admits only with the greatest reluctance that he has been wrong. One assumes that he recognizes his own gifts and is self-complacent without being unduly vain. Possibly vanity is just slightly responsible for the fact that throughout his life he has been a "no man" and cannot endure being a "yes man."

But these abstractions do not interest the people of Idaho. In the old days they voted for Borah because he was progressive, dynamic, and clever. Always nervous, despite himself, as his term draws to a close, he is farsighted enough to know that Americans resent the absentee politician. So he hires a car each summer and tours the state. He talks with the sheep men, the farmers, and the merchants. He addresses the granges and the civic organizations. He knows the local problems and he convinces these people that their cherished notions of how the government should assist them are unsound, uneconomic, vicious, and futile. He tells them that his own are constructive and noble. Somehow, in the end, they believe him.

IV

Borah, of Idaho, should the day come when he is no longer active, will find it difficult or impossible to select the outstanding moments of his career. He was living in the American Grand Manner—in the flare of headlines—when Herbert Hoover was known only to the engineering profession, when Calvin Coolidge was beginning a career that was to end, with the aid of God, in the realization of the impossible, when Woodrow Wilson hoped to write history and did not dream of making it, when Alfred E. Smith was a Tammany hack. The most reckless soothsayer would have hesitated to predict fame for any of these. Borah, however, was known throughout the Northwest in his early thirties.

But the story of his youth is in no way remarkable, a story so typical of America that the telling has long since grown repetitious. He was born on June 29, 1865, in Fairfield, Illinois, one of ten children whom William N. Borah, a farmer, struggled to support. The household was a religious one that worshiped a God who frowns on pleasure. The elder Borah was a devout member of the Presbyterian Church and sometimes filled the village pulpit when the minister was away. The Lord was responsible, on this farm in Illinois, for the blessings of a thick, black earth and for the harvests. But man was culpable, being a creature of sin, when the harvests failed to provide funds for the education of ten children.

In current phraseology the boy Borah would probably have been called an introvert, a youth inclined to withdraw into himself, to be serious, to read a great deal. He knew all of Shakespeare before his formal education was well under way, and farm life, with its heartbreaking toil and monotony, was intolerable. Borah longed for something better. His father was shocked when the boy suggested joining an itinerant Shakespeare company that was in the neighborhood and needed an actor for the rôle of Marc Antony. He gave his consent, however, when his son announced a few years later that he had decided to study law and proposed to attend the University of Kansas. He had already been enrolled at the Southern Illinois Academy at Enfield.

In 1889 Borah was admitted to the bar, having done his law work at night while at the university, and for the next two years he practiced in Lyons, Kansas. Then he decided that the new country farther west offered greater opportunities, and he made plans to go to Seattle. He found, however, that his funds were just sufficient to take him to Boise, Idaho, and he bought a ticket for that place—his choice determined by the fact that he had one or two letters to its citizens. In 1891, as to-day, Borah was an individualist. He had no law partner, but began to practice in Boise by himself.

Whether he soon became active in politics to increase his number of clients, or whether he had studied law with an eye to public life, is not on record. At any rate he was soon a cog in the state Republican machine and then became secretary to Governor McConnell. In 1895 he married the Governor's daughter, and the next year, as though to prove that even matrimony could not cloud his independence, he ran for Congress on the ticket of the now-forgotten Liberal Republican party, which supported the free-silver program of Bryan.

As yet, politics was not Borah's first interest. He was building up his law business and was prospering without attracting undue attention. He might have continued to grow prominent slowly; gaining an added reputation as an attorney and perhaps reaching, as the peak of his career, the Governorship of the state. Fate, however, chose to accelerate his pace. Idaho in the '90's was less of an agricultural than a mining state, for there were stores of silver and gold in the yellow hills. In 1896 the entire state was shocked by news of rioting in the Cœur d'Alene mines to the north and by word that several men had been killed in a battle between union and non-union forces.

In the summer of 1899, several of the participants were placed on trial for murder, and Borah served as special prosecutor. His name was on the front page for days, and his fame was spread even farther, by word of mouth, through the recounting of one of those brave, bold stories that the West cherishes. The state had intended to prove that one of the defendants had been seen with a rifle across his knees on the top of a freight bound for the mines on the morning of the riots. This was presumptive evidence that he had taken part in the fighting.

Borah received word as the trials began, however, that the man's attorneys were prepared to offer complete refutation. They planned to call the crew of the freight, all impartial witnesses, to swear that it was impossible for the supposed slayer to have been riding on the train. The many curves and the rough roadbed would have sent him hurtling from the box-car roof where he was alleged to have been seen.

Borah saw his chance of a conviction disappearing, so one morning, while the trial was in progress, he ordered the railroad (a small spur line and therefore amenable to orders) to make up the freight in the identical form in which it had been operated on the previous occasion. He further ordered that the same trainmen should be assigned to the run. This having been done, it was to be sent bounding over the stretch of track replete with curves and bumps. Borah's instructions were obeyed, and those who watched the train pass were astonished to see, perched atop the box car, a rifle on his lap, the gallant young state's attorney. An hour later he appeared in court, begrimed with dust but accompanied by the trainmen who had been listed as defense witnesses. He put them on the stand himself, and they told a graphic story of how he had defied death.

"It convinced the jury," Borah recalls with satisfaction. "They slept while the defense put forward its case."

Idaho continued to seethe with unrest, though, and on the night of December 30, 1905, former Governor Frank Steunenberg, who had been vigorous in putting down the Cœur d'Alene riots, was assassinated. Suspicion centered upon certain labor leaders, and again Borah was summoned to act as special prosecutor. By now he was being called "the most enthralling speaker in the Northwest," and when word drifted East that Clarence Darrow was to defend "Big Bill" Haywood and two other radical labor leaders charged with conspiracy to murder the Governor reporters hurried to Boise from Chicago, St. Louis, and New York.

The trial, held in the summer of 1907, was a first class legal show. On one side was Darrow, calm, phlegmatic, confident—rated as one of the greatest criminal lawyers in the country. On the other was Borah, a power in the state, a close friend of the slain executive, a speaker whose words came rushing in a torrent and who was yet so scrupulously fair that he never once referred to Haywood as a murderer, but always as "the defendant charged with conspiracy to murder."

As he finished, even counsel for the defense crowded up to offer their congratulations for the manner of his presentation, but the jury found Haywood and the others innocent. It was Borah's last criminal trial; a new phase of his career had already started. In 1903 he had presented himself to the legislature for election to the United States Senate and had been knifed by the machine leaders who, even then, doubted his regularity. "King Caucus must go!" he shouted, and four years later he toured the state repeating the phrase. So convincing was he that the people elected a majority of legislators pledged to send Borah to Washington.

V

By 1907 the Capital had grown accustomed to the arrival of strange figures from the barbarian states beyond the Mississippi. They inclined, even then, to radicalism. It was believed that they were certain to be ill at ease among the Best People. A few neglected to wear socks. But Borah, every one was aware, was not one of these. It was true that he had fought the Idaho Republican organization and had leaned toward Bryan in 1896. He had atoned for these sins, however, by his services in the labor cases and he had, of course, already attained national prominence. The Old Guard felt entirely cheerful about the coming of Borah and assured itself that he was "all right."

So confident, indeed, were the Senate leaders that he was safely conservative that they placed him on the Committee on Labor and Education, an unusual honor for a freshman member. To their dying day they regretted their optimism, for Borah began immediately the independent, radical, downright treasonous activities that were to mark his Senate career. In 1907, it will be recalled, Theodore Roosevelt was brandishing his big stick and thundering that monopoly must be controlled. Borah went farther, demanding that monopolies be destroyed. He was responsible, during the next few years, for the creation of the Department of Labor, an innovation viewed with grave apprehension as evidence of the danger point to which unionism had progressed.

He horrified the Old Guard still further by calling for an inquiry into the twelve-hour day in the steel mills, by remarking that those who had framed the Sherman Anti-Trust law had underestimated "the ingenuity, the almost supernatural sagacity of greed." He joined the Democrats in seeking an investigation of the sugar trust and opposed a protectorate over Nicaragua on the theory that it was a scheme of the international bankers to get some plump concessions. He called for popular election of Senators and urged a measure giving an embarrassing degree of publicity to campaign expenditures. And constantly and energetically he crusaded for economy in government, dealing blows to the spendthrifts of both parties.

Borah had small use for Taft as President, and when Roosevelt announced his candidacy for the 1912 nomination the Senator from Idaho was one of his ardent supporters and closest advisers. He went to Chicago to act for Roosevelt in the numerous contests for delegates and made no secret of his belief that the Taft forces stole the nomination. But all that was long ago, and the years have obscured the record of those exciting days. Now Borah is damned because he did not follow Roosevelt into the ill-fated Bull Moose ranks, just as he is criticized because he did not join La Follette. He did not do so, as I have said, because of his conviction that party government is right and proper; and he was making his position very clear prior to the 1912 convention. He had said that he would not bolt and he had advised Roosevelt not to do so.

But Roosevelt was a leader, which Borah is not, and on that turbulent night in June when his supporters were shouting themselves hoarse he could not deafen himself to their pleas. Borah was with Roosevelt, in his hotel rooms, while the Colonel of the Rough Riders was pondering what he would do, and finally he was asked to go out and speak to the crowd. But Borah would not go. This was not the way in which to build a new party. Defeat was certain. There was a moment of silence, and then the doors of the room burst open and a madly excited group of Bull Moosers burst in with telegrams pledging support. Borah looked at them, turned on his heel, and left. Roosevelt, his emotions again getting the better of his reason, bowed to the mob—and never again was his influence in American politics so important.

It is obviously impossible, within the limits of this friendly analysis, fully to tell the story of this singular hermit of Capitol Hill. Some day, one hopes, he will find time to write his memoirs and give in his own words the record of his crowded years. I have suggested that Borah would find it difficult, if not impossible, to choose from the many moments one that stands out above the others. Perhaps, however, he might select that day in November, 1919, when, after long months of bitter debate, he closed the argument against the League of Nations.

The oration of that day, November 19th, will live as one of the outstanding in the history of the Senate, and on that occasion Borah was truly great, even if only in negation. Here was the irreconcilable at his best; not ranting, not resorting to personalities, but earnest, desperately sincere. At first he was calm, an attorney opening his case before a jury in whose intelligence he had faith. The League, he said, constituted a grave peril to the future of America. To join it was to abandon "the great policy of 'no entangling alliance.'" In its essence it was contrary to the fundamental principles of the Republic.

Gradually, as he spoke, Borah seemed to be alone, unconscious of his fellow-Senators. Not a sound came from the packed galleries as his voice rose and fell. The League was not a league for peace, but for war. In opposing it "I do nothing more than decline to renounce and tear out of my life the sacred traditions which through fifty years have been translated into my whole intellectual being."

So he continued, always turning back to the inestimable wisdom of Washington and protesting that this must be a guide in the twentieth century. Even those who disagreed with Borah and who felt, as I do, that he was lacking in vision on that day, were deeply moved, and when it was over the impassive Henry Cabot Lodge had tears in his eyes. And as the Senate prepared to recess a page brought to Borah a hastily scribbled message from Vice-President Marshall, a Democrat and an advocate of the League.

"Even an old mummy on a pedestal," this read, "could not remain silent after such a speech."

VI

Inasmuch as he is chairman of the Senate Committee on Foreign Relations the importance of Borah in the future must rest on his viewpoint regarding the other nations of the world. It is unfortunate that he is known chiefly for obstruction. His fight against the League of Nations, the World Court, and the Treaty of Versailles has obscured the fact that he initiated both the Conference for the Limitation of Armament and the more recent treaty purporting to outlaw war. Borah feels that it is safe for nations to work together as long as they do not admit the legality of combat. He is enthusiastic in his praise of the Kellogg treaty not because he has any delusions that it means very much but because he believes it a step in the right direction.

Borah is deeply suspicious of foreign alliances, foreign military programs, and the cunning of European diplomats. He is pessimistic regarding their motives. He feels that until they reform their ways America must remain aloof. Borah reads voluminously regarding conditions abroad and is, no doubt, as familiar with conditions as is any man in Washington. Yet he has never been abroad and has no great desire to go.

"I think I should add little to my

knowledge," he says, "by infrequent, brief trips to Europe. It is often wiser, I think, to stand off and obtain a clear picture. One might become merely confused by first hand information. I shall, however, go abroad as soon as I possibly can—some people in Europe may feel slightly hurt that the Chairman of the Senate Foreign Relations Committee does not visit them. I would not have that happen for the world."

It may be true that Borah is a shade provincial. It may even be true that he is opinionated and inclined to make life wretched for the State Department. On the other hand, he is a gentleman in the best sense of that word. He really believes in the fundamental virtues—decency, honor, truth. In all the battles of his life he has never engaged in personalities, and even Woodrow Wilson, whose dreams he helped to wreck, felt no bitterness toward Borah during those last dark hours of his life. The fundamental virtues, he feels, are as vital to international relations as between gentlemen. So he has spoken in behalf of small nations. He has advanced the thought that because the United States is powerful she must refrain from being a bully. He has uttered, speaking of the tiny countries of Latin America, a thought that should be emblazoned over the doorway of every consulate in the world:

"God has made us neighbors. Let justice make us friends."

The trouble with Borah is his tendency to become interested in an extraordinary variety of matters. He lacks the ability to limit his activities. He does not carry through. He has been unflagging in his advocacy of honesty in government, but Washington still snickers at the recollection of his efforts to collect $160,000 for the Republican party to hand back to Harry Sinclair. He got a few thousands and abandoned the attempt.

He demanded recognition of Russia in an address that was eloquent and logical. But Russia is still an outcast in so far as the United States is concerned, and regarding recognition Borah has long been silent. The farmers needed government aid, and Borah demanded that they receive it. But he vetoed the McNary-Haugen bill and did not press a substitute. Individual liberty is fettered by legislation born of the war. Even individual rights, even Borah's cherished belief in states' rights have fallen under the Eighteenth Amendment. And here Borah's complicated political philosophy demands that there shall be no change.

Nothing could illustrate more clearly the fact that he is not a leader than does his prohibition record. Despite himself he is the leading spokesman for the dry cause, but he will have nothing to do with the Anti-Saloon League and has never made a speech in behalf of prohibition. He is the leading spokesman, despite this, because he is opposed to modification or to repeal. Borah stretches his theory of states' rights to the point where he says that a dry state, like Idaho, has the privilege of believing intoxicants harmful and cannot bar them unless there is a Federal law. Modification, he insists, is nullification; and then one recalls that all of the discriminatory acts whereby the South has evaded the Fifteenth Amendment have been upheld by the Supreme Court. Borah has actually called attention to this but is apparently unable to see that any law modifying the Volstead Act would be similarly blessed before it became effective.

It is not likely that Borah will change, in his essential philosophy, during the years between now and 1930, when he again seeks election. He will sometimes be on cordial relations with the White House and its new occupant. More often he will be an object of suspicion. He will continue to be admired, respected, and damned. Looking toward his own future, the Senator from Idaho hopes that he will be able to do his thinking for himself. He is well aware that it is easier to coöperate, to play with the team, to compromise.

"It is far simpler to agree than disagree in Washington," he has said. "If there is an atmosphere in God's world that weakens a man's backbone it is the atmosphere of Washington. The deleting process is constant and drastic."

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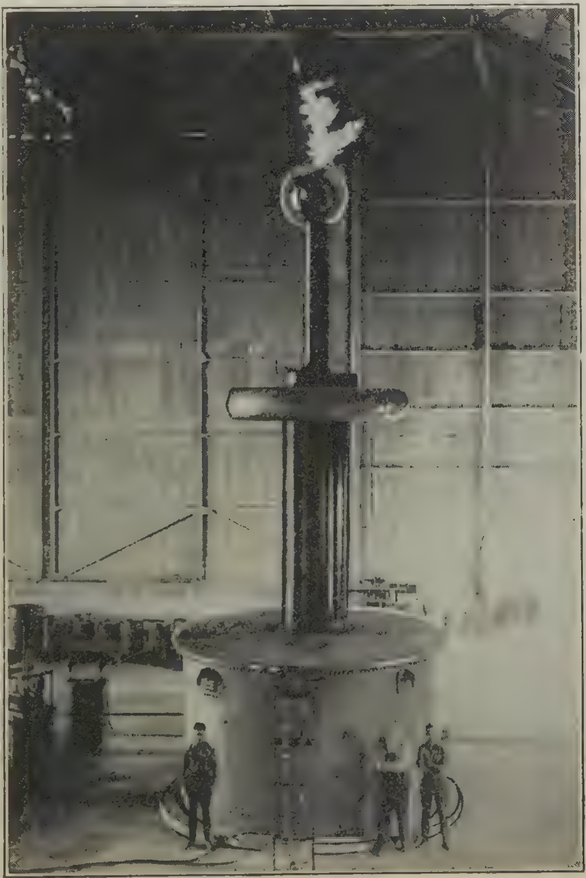
E. E. FREE

ELECTRICITY, like money, works most of its wonders by being unequally distributed. If every one had in pocket exactly the $9.60 that is said to be one average share of the world's cash, business would languish until the stimulating deficiencies and surpluses had been created anew. And if every bit of metal and wood and stone in the world possessed no more or no less than its average share of electricity we should ride in no trolley cars and read by no electric lamps. The subtle fluid that has become our familiar household slave is useful because there is more of it in the wires than there is outside of them; also because it will come out of these wires when and where we wish it to, instead of leaking out everywhere.

Electricity consists, the physicists tell us, of electrons—those tiny, invisible electric particles that every one has heard about nowadays because they are the miniature genii that inhabit and operate the vacuum tubes of our radio receivers. No scientist has ever seen an electron, and no one expects that he will do so. They are even smaller than the atoms of matter. Modern researches have shown, indeed, that electrons help to make up matter, just as they make up all that there is of electricity.

When Benjamin Franklin flew his kite and brought down lightning from the clouds, proving it to be really no more than an electrical phenomenon of a vastness previously undreamed of, he really did no more than to provide a path by which a small army of electrons could trickle down from the clouds and make sparks between his Leyden jars. Every electric spark is merely a cloud of electrons rushing across some gap. Electric currents in



HELPS MAKE A MILLION VOLTS

If a perfect insulator were available such giant transformers as this would be unnecessary. With no leakage, many times a million volts could be produced by a much smaller apparatus.

wires, the chief way in which we use electricity nowadays, are merely vast armies of these electric particles rushing through the wire under the urge of forces that we are only now beginning to understand. The control of these wire-filling electron armies, so that they will do our bidding and attempt nothing that we do not expect, is the chief task of electrical engineering.

Our ability to do this at all depends upon the existence in nature of certain materials through which the electrons do not like to pass. These substances we call insulators. The most important part of a city water system is not the water; it is the pipes. Just so, the one true essential of electrical engineering is not the mighty and spectacular dynamo or the miles of wire that carry the power. The real hero is the humble and grimy insulation that keeps the electricity inside the wires where it belongs and—no less usefully—keeps our careless fingers outside, where they are safe from being burned.

The new styles in electricity with which the world's research laboratories so continually astonish us—things like television, electrical refrigerators, and that newest wonder, the "electric man," which can talk enough to answer the telephone—these are mostly no more than new ways of restraining the electrons and making them behave. The electricity is still the same stuff that careered around the world for millions of years as lawless lightning flashes and that Franklin took one of the first steps in taming when he trapped it with his kite.

ELECTRIC WAVES

To keep electrons inside the wires of high voltage power lines, the wires are hung on long trains of insulators made of porcelain or other substances. One of these trains is here shown under test. The electric voltage provided was approximately one million volts.

Since then scientists have learned easier ways of getting electrons than to steal them from the lightning. One device, a potassium plate that gives off loose electrons when light rays fall on it, is now used to obtain companies and battalions and armies of free electrons, separate from the metal wires in which these tiny adventurers usually lurk. Another and frequently a better way is the electron-emitter used in the familiar radio vacuum tube, the heated filament at the center of the tube.

This filament is much like that of an electric lamp but is designed to emit as many electrons as possible instead of as many light rays as possible. When the atoms of the filament are hot enough some of the electrons that they harbor get excited and leave home. They fly out of the wire altogether. It is they who work the vacuum tubes for us, so that modern radio is possible. It is probable that these devices that divorce electrons from wires, so that mobile armies of the little workers can be provided in empty space, are des-

THE WORLD'S GREATEST ARC

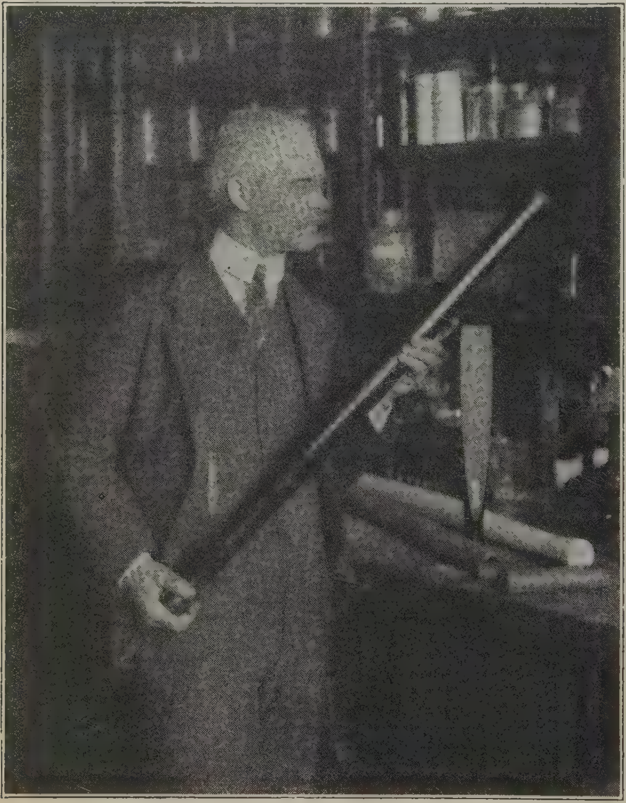
The arc consisted of an inconceivable number of billions of electrons flying between the terminals of the great electric machine.

tined to play as great a rôle in the electrical engineering of the next fifty years as the dynamo has played in that of the last fifty.

These tiny electrons are astonishingly plentiful. From an area of one of the new radio filaments no larger than a pinhead there escape each second more than a million billions of electrons. In a barely visible spark from the back of a cat there are so many electrons that if you were able to count them you would be counting for more than a million years. The numbers of the electron armies that pass each second through the heated filament of an electric lamp or through the motors of a street car or along the widespread transmission lines of a great superpower system are still more staggering.

In the problems of finding new ways of using electrons practically, their chief interest is not, however, their behavior in the free space inside a vacuum tube, but is how they affect the atoms of matter and how these atoms affect them. In the tiniest visible bit of copper wire there are billions on billions of copper atoms and still vaster numbers of electrons. Each copper atom is attended, in fact, by no less than twenty-nine electrons, all whirling madly around the central body of the atoms like excited dancers around a ballet master. In an inch of length of a copper wire so fine that it resembles an almost invisible hair are such vast numbers of electrons that if every man, woman, and child in the world ate one with every meal from now on there would be enough of them to last everybody for more than a thousand million years.

This mere number of electrons inside the matter of wires or other substances does not explain the practical good fortune that some substances pass electricity easily and are good conductors, while other substances pass it scarcely at all and can be used as insulators. It is not that conducting metals contain electrons, while materials like rubber do not. Rubber contains, indeed, just as many electrons per ounce as copper does. The difference seems to consist in the fact that the electrons of rubber have home-loving habits, while those of the metals are apt to be wanderers.



IMPREGNATED WOOD

It is possible to increase the insulating properties of wood by treating it with a special chemical material. The chemical, an insulator itself, fills up the tiny air spaces in the wood and prevents entry of water.

There was a time in human society when work was done and news was carried by what were called journeymen, traveling craftsmen that men to-day would be all too likely to call tramps. Soberer citizens settled down on farms, raised families, had money in the bank. The journeymen drifted, did a little work now and then, provided amusement for the more cautious brethren who dared do nothing but stay at home. The tiny world of atoms and electrons inside a copper wire seems not dissimilar. Some of the electrons of each atomic family are restless. If we could squeeze ourselves down to the size of an electron and visit the amazing Lilliput inside a piece of copper wire we should observe not only the settled and sober atomic families, each of twenty-nine electrons, but we should find some tramps, too—extra electrons drifting about on their own and declining attachment to any of the fixed groups.

As journeymen brought the day's news before newspapers were invented, it is these loose electrons that, we believe, carry electric currents. They need not carry quite all of it, for even the soberer, stay-at-home electrons sometimes acquire a wanderlust and leave the family fireside, provided they can get substitutes to take their places and to do the atomic chores.

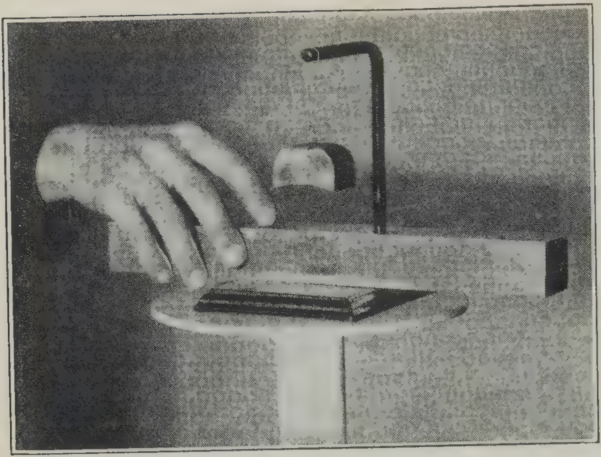
Suppose, for example, that you start an electric current in at one end of a bit of copper wire. This electric current consists of a swarm of electrons. These extra electrons do not themselves move all the way through the copper, a detached army avoiding all acquaintance with the countryside. On the contrary, many of them accept attachment at once, replacing some of the family electrons already there. These new wanderers, thus released for the journey, then join the marching army and go ahead until they, in turn, accept attachment to an atom and set free still newer wanderers, as they themselves were freed so short a time before.

The electrons that go in at one end of a wire will not be the same electrons that come out at the other end. But the same number of electrons will come out; they will merely have exchanged individuals on the way. It is as though Sherman's army, marching eastward to the sea, exchanged soldiers with each community that it traversed, arriving at Savannah with its number unimpaired but with each company composed of Southerners picked up along the line; each of the original Yankees having stopped by the wayside to take up the household routine of one of these recruits.

This applies to conductors, like copper and other metals. In insulators, like rubber or glass or mica, allegiances are not so easily rearranged as this. The electrons of the local families are less apt to change place with wanderers who drift along. The result is that if you force an army of electrons up against one side of a piece of rubber they stay right there. A very few may work their way into the rubber mass,

THE OSISO—A HELP TO THE DEAF

The mirror in the upper part of the instrument permits the observer to see sound waves corresponding to spoken words.



FOURTEEN TIMES ITS WEIGHT

The small cobalt steel magnet will support the solid steel bar after the two have been placed in contact.

like spies into a hostile population. But there will be no free exchange of places with the electrons of the rubber atoms; no general onward drift of electrons will occur; the "current," as we say, will not pass. Some such picture as this seems reasonably close to describing the differences in internal structure that provide the useful fact that some substances keep out the electron armies and thus prevent our wires from leaking electricity all over our houses and, more painfully, all over ourselves.

One of the things of which electrical engineers dream when they are optimistic is the possibility of a perfect insulator—some coating that would permit them to feed six or eight million volts of electricity into an insulated wire and have it come out safely at the other end. If any one tried that with present varieties of insulated wire the insulation would promptly explode. The electron pressure would be far too much for it. Indeed, the failure to generate ten or twenty million volts up to the present is not because knowledge is lacking of how to do it but because the insulation between the parts of the generating apparatus would break down and ruin the machines; also ruining, in all probability, any incautious engineers who happened to be near by. If some one could find a substance so impervious to electrons and so firm against their attacks that no electricity would pass through it under any circumstances, that would open another new set of styles in handling electricity and another new world in electrical engineering.

There is no probability that these particular new styles will be accomplished at once or without vast labor. All kinds of matter, even air, consist largely of electrons. All these electrons of matter are exactly like the electrons of electricity. They have merely accepted servitude to atoms. If one throws enough loose electrons at these bound ones, and throws them fast and frequently, the bound ones are apt to forget their contracts, desert the atoms to which they are attached, and allow matter itself to fly apart.

This perfect insulator, although it is still beyond the horizon of our scientific explorers, is not too much to dream about. The brief history of electrical engineering has already seen an enormous increase in the ease with which electric currents can be insulated and transferred safely from place to place.

C. E. Skinner, the engineer who was the first director of the Westinghouse Research Laboratory, said in an address not long ago that when he was a college student he and his classmates proved conclusively that electricity could never be transmitted to distances greater than five miles or at intensities greater than 220 volts. Time has proved them pessimists. Already the practical transmission distances exceed two hundred miles. Voltages as high as 60,000 volts have been used even inside insulated cables laid under the streets. Five times this voltage has been used for overhead lines, where wider spacing of the conducting wires is possible. And Mr. Skinner, once the pessimistic student, became the enterprising engineer who played one of the largest rôles in making these betterments facts.

Not long ago I asked S. M. Kintner, present director of the research laboratory maintained by the Westinghouse Electric & Manufacturing Company, what he considered the chief essential for progress toward still better insulation and still more perfect transmission of electricity. He replied that the one essential is a man; some individual who will be content to think and dream about nothing but the interactions of atoms and electrons, until he has found out that basic secret of why the home-keeping electrons in the copper wire aid the free electrons to pass, while those in materials like rubber oppose them.

This is no child's play research problem, for quick solution and easy fame. It is a life-time job for some patient explorer. Perhaps even one lifetime would not be enough; and certainly many men, each expert in his line, must help the quest. This kind of research needs devotion almost of religious intensity. But fortunately science has never lacked devotees. Mr. Kintner will surely find, if he hasn't already, that single-minded searcher that further control of the electron armies makes so necessary.

Every one of the new electric fashions that engineers propose and persuade electrons to accept involves problems of this kind, although not always so difficult. One of them lies behind that familiar household utility, the electric iron. In this device electrons hurry out from the power wires and back again into them and are asked to produce, not light or motion, but heat. The electrons know only one way to do this. As they scurry through the coils of wire wound inside the iron they knock against the atoms of the metal in these wires. If enough electrons do this the atoms get hot. That, in turn, heats the whole iron.

The wire that is to be heated in this way must be of just the right metal. If it allows the electrons to pass through it too easily the electrons will not knock about

THE PHOTOELECTRIC CELL

This cell detects minute light changes and is therefore able to count the number of automobiles or persons passing down a street or to detect fire by "seeing" the slightest wisp of smoke.

the atoms sufficiently to make the wire hot. On the other hand, the wire must not respond too violently to the antics of the electrons and get too hot. If so, it will melt, and some housewife will mourn a burnt-out iron. To devise metallic alloys that electrons will heat up just enough but not too much has been, and will continue to be, one of the important duties of electrical research men, including those of the active laboratory over which Mr. Kintner presides.

Among the properties of electrons that are still fundamentally mysterious and therefore especially potent for the future is that of influencing one another at a distance. If a wire through which passes the electron stream of an electric current is merely brought near to another wire, without actually touching it, the atoms and electrons in the second wire are set into excitement—much as a human city might be by news of a hostile army's approach. This is perhaps the most important single fact underlying electrical engineering. It makes possible, among other things, the telegraph, the telephone, the electric dynamo, and the electric motor. One of its manifestations is magnetism, for the forces of magnetic attraction and repulsion, even in natural magnets like the lodestone, are now believed to be due to action at a distance between the electrons (or atoms) in the actual magnet and those in the body that it attracts or repels.

For this reason the science of magnetics must be one of the chief preoccupations of inventors searching for still newer electric styles. In this science Mr. Kintner, who asks for a man willing to spend his lifetime on insulators, has been fortunate to find an individual who will do just that for the secrets of the magnetic atom. Once in the laboratory of Professor C. H. Desch, the famous metallurgist of the University of Sheffield, England, Mr. Kintner asked where it was possible to obtain laboratory samples of the purest possible metallic iron. The best source, the Professor replied, was a man named Yensen, in Pittsburgh. Mr. Kintner laughed. Mr. Yensen was already working in the Westinghouse Research Laboratory. He was the man who had decided to make magnetism his life work; and the world's purest iron, fame of which had spread across the sea to Sheffield, was merely one of his many tools.

It is indicative of the broad spirit that animates not only Mr. Kintner's laboratory but virtually all the research laboratories of the great electric companies, that Mr. Yensen was encouraged two years ago to leave his workbench and his magnets in Pittsburgh and to go to one of the country's foremost research laboratories to study the inmost habits of the atoms and electrons inside his samples of iron and steel. The bait for scientific flies is neither honey nor vinegar but facts. Fact-collecting interludes like Mr. Yensen's season of academic research are incubators for still further discoveries of how electrons make small but powerful magnets out of near-by atoms of steel.

The electrical styles of the next century may use the free electrons in vacuum tubes more largely than to-day, and magnetic machinery less largely. But every one of the new facts now being learned so plentifully about electrons and atoms and electromagnetic waves is likely to find usefulness in the improved control of the electron multitudes that already serve mankind so well.

Germany and the Dawes Plan

Our Interest in Proposals to Settle the Reparations Total

HENRY KITTREDGE NORTON

FOUR YEARS AGO Germany was in a state of economic collapse. Defeated in the World War, she had been subjected to a political and military pressure by the Allies that meant certain ruin. The politicians who at Paris had promised their peoples to make Germany pay every cent of the war costs were driven by the logical force of their own illogical arguments to use every means in their power to coerce Germany into paying sums that Germany was quite unable to pay. The effort to meet the Allied demands forced down the value of the German currency, and each new demand meant a further drop. After the occupation of the Ruhr in 1923, this process reached its logical conclusion in the complete disintegration of the old German currency and the paralysis of German economy.

Then came the Dawes plan and its acceptance in 1924 by all parties concerned. The essence of the Dawes plan is that it fixes a definite amount that Germany is to pay in each year and enables her to pay this sum in marks to an officer known as the Agent General for Reparations. When the marks have been placed in his hands, Germany's task is completed. A Transfer Committee working with the Agent General is charged with the duty of transferring the marks to the creditor nations without depreciating the German currency.

The Dawes plan has now been in operation for four years. The results have been most gratifying from every point of view. The Allies have received their money exactly in accordance with the schedule each year. There has been no difficulty in the payment or in the transfer. There is no room for complaint on the Allied side. Germany, on the other hand, has once more become a functioning economic unit. With a population that has increased by nearly 5,000,000 since 1918, it has put all its laborers to work, with the exception of about 650,000 who are still in receipt of unemployment relief. Germany's production has reached pre-war figures and in many industries has exceeded them.

Can Germany, however, make the larger payments required in the future? Beginning with September, 1928, the payments under the Dawes plan reached the standard figure of $600,000,000 a year. This means an increase of $187,500,000 over the payment for the fourth year, 1927–8. All of this increase falls on the budget of the Reich. The maximum contribution of the German railways, German industry, and the transport tax was reached during the fourth year. In that year the government of the Reich contributed only $125,000,000. Next year it must contribute $312,500,000.

Certain revenues of the Reich are earmarked to cover this amount. These constitute the so-called "controlled revenues." These revenues during the past year have yielded more than double the amount necessary to cover their contribution to the standard payment. In fact, the German Government has recently reduced the rate of assessment of these revenues by 20 per cent. As the other revenues from railways, industries, and transfers are also yielding a considerable sum in excess of their contribution to the reparations payments, it may safely be concluded that, short of a serious economic depression in the country, there is no obvious reason why Germany cannot turn over to the Agent General the larger payments of the standard years as readily and as promptly as she has made the payments of the first four years.

On the face of things it would appear,

not only that the Dawes plan has served its purpose in restoring Germany to economic health and in securing to the Allies the largest practical payments on reparations account, but also that there is no reason why it should not continue indefinitely to do the same thing. There are, however, several aspects of the matter that cause concern for the future. These all relate to the fact that during the past four years Germany has borrowed abroad a sum considerably in excess of the amount she has paid in reparations during this time.

The statement is frequently made, sometimes carelessly and sometimes with forethought, that Germany has paid the reparations installments out of borrowed money. This is at worst a false, and at best a misleading, statement. A comparison may help to make the matter clear. If a corporation with a producing plant worth $5,000,000 issues bonds for $1,000,000, and in the same year pays a dividend of $500,000, it has not necessarily paid the dividend out of its borrowings. If the producing capital has been increased by at least $1,000,000, and the net profits on production are at least $500,000, then it has paid its dividend out of surplus production and not from the borrowed money. The increase of capital investment offsets the liability on the bonds, and the profits are left clear for dividend payments. This is true even if it uses part of the actual cash received for its bonds for the actual distribution of the dividends.

The financial course of Germany during the past four years presents such an operation on a large scale. Since the Dawes plan went into effect German borrowings have been approximately $2,500,000,000, as against a total reparations payment of $1,370,000,000. If, during this period, Germany has increased the total of her producing capital by more than the amount of the loans, then the reparations payments must have been made out of

THE FIRST MEETING OF THE DAWES COMMITTEE OF EXPERTS
Seated at the table in the Hotel Astoria, Paris, are, left to right: F. Flora and Dr. Pirelli, Italy; M. Alix and M. Parmentier, France; General Charles G. Dawes, president of the committee, and Owen D. Young, United States; Sir Robert Molesworth Kindersley, G. B. E., and Sir Josiah Charles Stamp, K. B. E., England; and Emile Francqui, Belgium.

surplus production. It is difficult, if not impossible, to measure with absolute accuracy the value of a country's producing capital. It is difficult from a ship at sea to measure the height of the waves above sea level. But even the casual passenger has no difficulty in concluding that the waves are substantially higher at one time than at another.

So with the amount of producing capital in Germany. It may be difficult to measure the exact amount of the increase in the past three or four years. But that there has been an increase, and that greatly in excess of the total amount borrowed abroad, seems clear. One of the largest of the German banks has attempted to estimate it in comparison with the production of new capital in Germany in 1913. According to these figures, Germany in 1913 produced new capital to the extent of nearly $3,000,000,000. For the past three years the average has been about $1,750,000,000, and during 1927 it ran close to $2,000,000,000. The total for the three years is more than $5,000,000,000. And this is over and above the $2,500,000,000 borrowed from abroad.

GENERAL DAWES IN BERLIN

The head of the Reparations Commission walks with the Belgian banker, Emile Francqui, to a committee meeting.

Accepting the fact that there is room for error in these figures, we may use them as an approximation to the truth. It thus appears that Germany is in the position of a corporation that has borrowed $2,500,000,000; that has paid out in dividends during the period $1,370,000,000 and at the same time has increased its producing capital by $7,500,000,000. In other words, Germany has produced the entire amount of the reparations payments, plus $5,000,000,000, which has gone into increasing her plant. She has further added to her plant with $2,500,000,000 of borrowed money. It is therefore quite inaccurate to say that Germany has paid her reparations installments out of borrowed money.

The cash received on loans has, however, been used to facilitate the transfer of the reparations payments to the creditor nations. This corresponds to the action of the corporation in using cash received on its bond issue to pay its dividends. Let us suppose that the corporation's plant is located in Chicago, that its bonds were sold and the receipts deposited in New York, and that the stockholders were also in New York. It would be the natural thing, then, for the corporation to use the money in New York to pay the dividends in New York, and to use the money in Chicago to increase the plant in that city. This would avoid transferring the cash both ways.

Likewise, in the case of Germany, the receipts from her foreign loans were deposited in foreign banks. Those to whom she owed money were also foreigners, and it was the easy and natural thing for her to use the foreign money to pay the foreign debts. As long as Germany can and does borrow money abroad in excess of the amounts of the reparations payments, she will continue to use this money to make her payments and keep her marks at home to make additions to her producing plant.

But it is contended that sooner or later Germany will reach the limit of her borrowing capacity and that no further foreign loans will be forthcoming. Our corporation under parallel circumstances would simply have to arrange for the shipment of its surplus earnings from Chicago to New York for the payment of its dividends. But here the comparison with Germany breaks down. It would be useless to ship German marks to the creditor countries, because marks are worth nothing outside of Germany. They must be exchanged for foreign currency before they can be of any value to Germany's creditors.

Thus arises the "transfer problem." Ordinarily, between nations having different currencies, accounts are paid by the shipment of a surplus of goods or gold from the debtor nation to the creditor nation. Germany has not sufficient gold to pay her accounts in this way, and so far, since 1924, she has found it necessary to import more goods than she has exported. It is with an air of finality, then, that the question is posed: (How can Germany pay when she can no longer borrow money abroad?)

There is a great divergence in the answers to this question. One school of thought makes the reply that the transfer problem is all a bugbear; that there is in reality no transfer problem at all. The argument is that Germany in borrowing money abroad is simply refunding an outstanding debt. It would be as if our corporation, before it borrowed the million dollars for new plant, had already an outstanding indebtedness of $2,000,000. Let us suppose this indebtedness falls due in annual installments of $200,000 each over a period of ten years and is payable in New York. The company might, if it thought it profitable so to do, simply make a new loan of $200,000 each year to pay off that year's installment. It might simply refund its debt as it fell due. This is a common practice among large corporations. A great railway company rarely pays off its bonded indebtedness, because it finds it cheaper and therefore more profitable to borrow money at low interest on bonds and to use its own capital, on which it can earn higher returns, to develop its business.

The contention of the optimistic school is that Germany, in its foreign borrowings, is merely refunding its debt as it falls due: that it is borrowing from private lenders and paying its obligations to the creditor governments. The theory is that in the course of time all of Germany's indebtedness to the Allies will be paid off and Germany will owe a sum, which it will be quite able to carry, to private investors, and that this can be refunded as often as Germany desires.

The difficulty with this theory is that Germany's total indebtedness is not known. The Allies did in 1921 render Germany a bill for $32,000,000,000. But Germany has never accepted this and, as it is somewhere near one half of the estimated total wealth of the country, it may be regarded as far beyond the possibilities. Germany would like to fix the total payment at not more than $4,000,000,000. The Allies have thus far refused to become interested in so small a figure.

Yet all parties are anxious to have the final amount fixed and accepted, and the present contest is over the amount that shall be set for the total of the German payments. If the figure as finally agreed upon is in the neighborhood of the $4,000,000,000 minimum, there would seem to be no reason why the optimistic school should not be right. But if the final settlement is nearer the $32,000,000,000 maximum, it is greatly to be feared that their optimism is unwarranted. As the final settlement may be anywhere between these two figures it is well to consider the contentions of the pessimistic school.

The disciples of this school are under the disadvantage of having made their pessimistic pronouncements ever since the Treaty of Versailles was in the making. Until 1924, events seemed to justify their pessimism. But since then the Dawes plan has delayed, if it has not prevented, the fulfillment of their dire predictions. They rest their case now on the assumption that German credit will soon be exhausted and that when this time comes Germany's creditors will no longer receive their annuities. Even if they concede for the purposes of argument that the requisite number of marks can be collected and delivered to the Agent General in Germany, they contend that it will be impossible to convert these marks into foreign currencies without disastrously depreciating the exchange value of the mark. As this is forbidden by the provisions of the Dawes plan, they conclude that the payments must stop.

In principle, this would not upset the Dawes plan. The plan itself provides that in case the annuities cannot be transferred to the creditor countries the Agent General shall invest the funds in Germany —for Allied account, of course—up to a total of $1,250,000,000. After that figure has been reached Germany is not required to pay more than can be successfully transferred from time to time. The net effect upon German economy would be much the same as if she continued to borrow abroad as she has been doing.

But, continues the pessimistic argument, the failure to transfer the money to the Allies would immediately provoke a political crisis and a demand on the part of the creditor nations that the Dawes plan be jettisoned in favor of some new arrangement that would secure results more substantial from the creditor's point of view.

It may be conceded that, if the transfer of reparation payments should cease entirely, a crisis would follow, and that political clamor in the creditor countries would probably precipitate new demands. But the other assumptions of the pessimistic school are perhaps not so well grounded. It is, of course, possible for the German Government to prohibit all further borrowings abroad and thus greatly restrict this means of converting German marks into foreign currencies. However, Germany has already tried to prohibit foreign loans except for constructive purposes. The result has been considerable "bootlegging"

THE REICHSBANK

This building in Berlin houses the national bank of Germany, where is administered the payment of reparations.

of capital by means of inflated credits and otherwise. But even if it were possible to put an effective stop to borrowing abroad, any German Government would think long and earnestly before deliberately taking action the almost certain result of which would be to take the reparations question out of the hands of financial experts and deliver it once more to the tender mercies of hostile politicians.

Short of such action by the German Government, there seems little reason to expect an abrupt and total cessation of German borrowing abroad. Foreign lenders may become more exacting, and it may become more difficult for Germany to borrow as liberally as she has during the past three or four years. This would cause a proportionate diminution in the rate of expansion in Germany and cut down the amount of foreign exchange available for the Transfer Committee. The volume of available foreign exchange, however, can be reduced considerably before it would seriously affect transfers, for the German mark has steadily appreciated until it is now well above its par value as compared with the dollar or the pound sterling.

Even if the diminution of foreign loans to Germany should reverse this tendency, it would have several effects before it would prevent the conversion of German marks into foreign currencies. *First*, it would decrease prices in Germany and thus increase the ability of Germany to sell its goods in foreign markets. *Second*, it would normally inflate prices in the foreign markets and thus increase the demand for imported goods, including goods from Germany. *Third*, this would increase the demand for marks on the exchange market of the world. Whether it would increase it sufficiently to take up the total of each year's reparations payments cannot be demonstrated except by actual trial. But to state conclusively that the transfers will come to an abrupt halt requires as reckless courage as to state conclusively that there is no transfer problem at all. Undoubtedly the truth lies somewhere between the two extremes—just where, only the actual results can show.

These questions—whether Germany can pay and whether payments can be transferred to the creditor countries—have been the chief points of discussion in foreign countries. But many Germans have concerned themselves with another question that is to them quite as important. Even if Germany can for the present pay $600,000,000 a year, and even if this amount can be transferred, will not the result sooner or later work a disruption of Germany's economic and social structure?

The argument proceeds in this manner: The payment of $600,000,000 a year to foreign countries is a drain on German capital to that amount. Germany has no surplus capital to export. On the contrary, she needs capital so badly that she has imported it in large quantities at a high rate of interest. Her net annual surplus production is not sufficient to provide for her own capital needs, let alone sending $600,000,000 abroad every year. The result of such an exportation must be to depress the German standard of living more and more each year. This will not only limit the home market and thus slow down the economic process, but will also produce a discontent that will increasingly threaten the stability of the German state. In other words, not only Germany may lose the power to produce the money for the Allies, but at the same time her people may turn to Bolshevism to escape an intolerable situation.

I doubt if there is any large element of insincerity in this contention of the Germans. It is a natural reaction to the pressure that they feel in being coerced into the payment of a heavy penalty for losing the war. Yet it is not easy to accept this argument without qualification. In the first place, the growth of German capital during the past four years, which has already been mentioned, would indicate that the economic situation in Germany is rapidly improving.

All the figures compiled by the German statistical office, German banks, and other organizations in an effort to make reliable estimates, indicate not only that German economy is undergoing a healthy development, but also that this development is sufficiently rapid to take care of a large amount of new housing and other capital investment necessary to provide for a population growing at the rate of approximately 500,000 a year. During the past year Germany has actually put to work between 650,000 and 700,000 more laborers than were employed a year ago. She has not, of course, had to pay $600,000,000 in any previous year, but the indications are that, if her present economic activity continues, $600,000,000 will be no more serious drain upon her finances than the smaller payments have been in the past.

An item in the German budget lends appreciable support to this view. If we take the total appropriations of the Reich, the state, and the communes, we find that in 1913–14 the appropriation for "education and social welfare" was $423,000,000. In 1925–26, the appropriation under this head was $1,227,000,000. It is difficult to quarrel with money spent for educational purposes. But the German educational equipment before the war was considered one of the best in the world. To continue the appropriations in amounts corresponding to pre-war figures could meet with no legitimate objection. But the increase in this item is expended largely for health insurance, life insurance, burial insurance, unemployment insurance, and similar items that, however desirous in theory, are in a very real sense a luxury.

ON VACATION

S. Parker Gilbert, Agent General for Reparations, in Washington with Mrs. Gilbert. He assumed his important duties at the age of thirty-two.

No other great nation has so elaborate a system of financial benefits for its working classes as Germany. There might be justification for this if the wages of German laborers were disproportionately low. Even then it would be the most expensive way of paying higher wages. But as a matter of fact the German laborer is comparatively well paid. Wages in Germany are probably as high as in any European country except England. In addition to that, the German laborer receives the benefits of this welfare appropriation, the largest item in the combined German budget. About one third of the income of the German governments is expended under this head of "educational and social welfare." Its relation to reparations payments appears from the fact that this item has been increased since 1913 by more than $800,000,000 a year, or one third as much again as the total of the standard reparations payment.

In this comparison the American people have a special interest. Every scheme for the settlement of the reparations problem revolves about two items, and both of those items affect this country. One of these points is that the Allies insist that before they will accept a final settlement Germany must "commercialize" her debt—that is, she must sell bonds in the world's financial market and turn the cash over to the Allies. The Allies demand that the amount of this cash be sufficient to settle their debts to the United States. As there is grave doubt about the possibility of Germany's being able to sell even the minimum of four billion dollars' worth of bonds to private investors, this means that the American people would have to reduce their claims upon the Allied countries by three or four billion dollars and at the same time advance the necessary funds to pay themselves the balance.

But if this is done it should be done with the full realization of the fact that we are selecting Germany out of all Europe as the beneficiary of our generosity. The Allied countries have already practically balanced their war-debt payments by receipts from Germany, and if both items are canceled the tax burden on them would remain exactly the same. Germany alone will have her burden lightened at our expense. And there is no serious contention even in Germany that the burden of taxation in that country is greatly out of proportion to that in the Allied countries. In other words, when we are asked to cut down our claims upon the Allies in order to facilitate the final settlement of the war-debt and reparations question, we are asked to increase our own taxes for the benefit of a Germany that, without overtaxing, has already demonstrated its capacity to carry the Dawes load of $600,000,000 a year, to spend in addition $800,000,000 a year on expensive social benefits, and at the same time to increase its producing capital by some $5,000,000,000 a year.

This situation warrants at least an element of caution and close thinking before we accept the additional burden of taxation that the present settlement schemes would place upon us. Yet it by no means concludes the matter. There is an aspect of the German argument that has as yet hardly been fully appreciated even in Germany. The chief advocates in Germany of German performance of her obligations under the Treaty of Versailles and the Dawes plan have been the Socialists and the other parties of the Left Wing. Yet it is these same parties who joyously authorize expenditures for social benefits. If the economic situation should take a turn for the worse, the Left wing might have to choose between discontinuing its social benefits, with disastrous results at home, and discontinuing the Dawes payments, with disastrous results abroad.

While there is no element in this situation that places any obligation on the American people materially to increase their taxes in a doubtful effort to relieve Europe of a burdensome situation, there is an obligation on the Allies to give prompt attention to one phase of the question. Whatever doubts there are as to the future of the Dawes plan would be substantially removed if the total amount of the German indebtedness were agreed upon. The Allies have refused to reduce their bill of $32,000,000,000 until they receive some definite assurance of immediate payment of a smaller sum. This is understandable, though the continuance of the Rhineland occupation, in the face of Locarno and the record of German performance thus far, is a quite unwarranted measure of coercion. The reluctance of the Germans to agree upon a figure larger than $4,000,000,000 is equally understandable, though they must, and probably do, recognize the necessity of considering a larger figure.

The chief barriers to an equitable settlement of the German reparations problem heretofore have been the bargaining avidity of all the European nations concerned, and the hope that a wealthy America would pay off whatever difference there might be between the figures on one side and those on the other. The recent action at Geneva that looks toward the establishment of a new international commission to investigate the present status and to recommend a suitable settlement, would indicate that the hope of American largesse was fading.

It is hardly to be expected, however, that the European nations will settle the matter among themselves without making a final effort to draw the United States into some sort of an agreement that will be to their advantage. Poincaré's speech in Savoy was a bugle-call for such an effort. If that effort is made, the American people will be fully justified in demanding that they be shown very clearly that the proposed agreement is to *their* advantage also. There is ample opportunity for European statesmen to make an equitable and workable settlement of the reparations issue without their demanding that the United States foot a large part of the bill.

The Long Suffering Student

The College Youth Finds Himself Better Off To-day than Yesterday

CHARLES FRANKLIN THWING

THE COLLEGE STUDENT of to-day, like the college student of yesterday, is a member of a democratic society or of a social democracy. But be it at once said that he is more of a social democrat than was his brother of the earlier time.

The principles and methods of social democratic equality are more regnant in the year 1928 than they were in the year 1878. The increase in the number of individuals in the college is accompanied by a decrease in the number of individualisms. Similarities are more abounding in the present college groups than are eccentricities. Fashions in clothes are only a symbol and sign of likenesses in thought and behavior. Academic equality is in the saddle. Students shirk both superiority and inferiority. If they do not shirk superiority, they are rather eager at least to avoid its manifestation. Uniformities rule. "Yes, I have taken that prize. But don't tell anybody." Humility of spirit is alone excelled by modesty of conduct.

But in the deeper probing of our comparative problem, social likenesses are soon seen to give place to personal differences. For, to begin with the beginning, the physical bodies of students at once form a basis of comparative discriminations. The health of students is the subject of a care more careful, and of a devotion more devoted and wiser—quite unlike the apparent carelessness and official indifference of an earlier time. Every large college has its bureau or division of health, and every small college has its doctor. Colleges as unlike in environment and condition as Williams and Harvard have their hospitals—hospitals properly equipped for both surgical and medical service.

Such opportunities and advantages are constantly used by students. Their function and purposes are of course curative and, what is far more important, preventive. Of course the gymnasium and the playing fields represent a permanent condition for health, equipped with competent groups of directors and coaches. The great change, however, is found in the attention that colleges are paying to the mental health of students. For the mental ill health of students is more common, more serious, more fundamental, than is the sickness of body. Colleges are becoming far more solicitous for this complex side of the student's life. This solicitude arises in no small part from the increasing knowledge of the broad field of psychology.

Though the supervision of and care for the body have become more intimate and constant, calling out appreciative responses, yet the responses made to the intellectual interests and powers of the students show no such increase. Students are unconsciously adopting the biological method of intellectual growth, and consciously neglecting the method of growth by hard continuous study. The normal number of hours of intellectual labor done in the college has in fifty years been reduced in about the same proportion as it has in the industrial plants.

In the former time ten hours a day, sixty hours a week, was not exceptional for the student. To-day the forty-eight hour week in the college would represent the higher and severer standard. Some would say that six hours a day is normal: two hours of recitation, conference, or lecture, and two hours of preparation in reading or writing for each exercise. The problem of the amount of study is, of course, both quantitative and qualitative. The intensity of mental application is at least as important as the duration of application. The question is, of course, a very individual one. It is also exceedingly complex. But for one, I do lament the decline in the hard, close, continuous working of the student.

My sorrow is made the greater by reason, at least in part, of the broader, more diverse, and more agreeable program of studies that is set before the student. A simple examination of the catalogue of any college, a simple examination of the courses offered in any department, provide convincing evidence that the program has become broader, more diverse, and more agreeable.

The revolution wrought in the knowledge of the natural world is incorporated in the scheme of studies offered the student—schemes covering the chemical, physical, geological, and biological sciences. The changes are fundamental. But changes hardly less fundamental are wrought in studies linguistic, economic, mathematical, historical, social. The scholastic wealth now set before the student is simply incalculable. He is made the potential possessor of riches of which his father or grandfather could never dream.

For the student this general enlargement of studies has been united with the need, a keener need indeed, of concentration: of concentration on certain subjects or groups of subjects. If the student knows less of *all* subjects than in the former time, he certainly knows more of certain groups of subjects. The relation of these groups of subjects to one another has been well interpreted and well controlled by college authorities. Intellectual breadth, which carries along with itself the peril of intellectual superficiality, and intellectual concentration, which carries along with itself the peril of narrowness, have been well adjusted to each other.

The student becomes a student in all subjects and a scholar in some. Choosing his vocation at an earlier age than did his father, he elects studies that specially fit him to take up his professional preparation. For medicine he takes chemistry, biology, and physics; for law, history and economics; for theology, philosophy and psychology. Through such concentration he gains in power as well as in special knowledge. Knowing that all studies aid in every professional equipment, and knowing, too, that he is a citizen and an individual person, he appreciates the value of studies that seem unrelated to his future. He thus realizes that no opportunity should be neglected, no advantage wasted. He thus becomes an academic miser, or a scholastic power house.

From the student as an intellectual being it is easy and natural to pass over to writing of him as a moral and religious being. For the student is a moral being; and he is a being quite as moral as was his brother in the earlier time. I am indeed inclined to think that he is a better moral being than he was when I was an undergraduate. He has a clear idea of what fundamental morality is. He knows the perils of the infraction of high ethical standards. He recognizes the worth and even the glory of observing those standards. To the one vice to which young men are peculiarly tempted he is less subject than were his forbears. The current standards of health aid him in resisting appetite. Constant and hard physical exercise adds to his strength. Sexual mysteries give less allurement, for the mysteries have become less mysterious. If the moral commandments are less commanding, the damnable foolishness of indulgence has become more emphatic and directive.

Regarding the prevalence of intemperance in drinking, opinion is divided. But I wish to say that intemperance among college men is becoming far less common. My observation covers more than fifty years. Of course, I confess that other witnesses bear contradictory testimony. I hear also, be it said, the current tales of the hip-pocket flask and of unseemly behavior at parties. Let no one seek to deny facts that, however sad, are still facts.

But taken all in all, in country colleges and urban, in institutions large and small, intemperance has, in the last fifty years, and in the last ten, distinctly lessened. College students, both individually and as groups, are usually sober. Of course they are. Reports coming to me, indicating a lack of soberness, apply largely to general social functions and not to college parties.

Of course the college man of to-day smokes too much. This matter belongs perhaps rather to a paragraph on hygiene than to one on morals. Formerly, smoking was interpreted as a question primarily of morals and secondarily of hygiene. It has now become a question primarily of hygiene, and secondarily, even if at all, of practical ethics. Yes, the college man (and the college woman) smokes too much. Any smoking, indeed, is bad for the college man. For the testimony of doctors is that no man should smoke while he is growing; and the student is growing in every year of the academic four. Any smoking is bad for youth, but smoking in the degree that it is indulged in by the student is especially bad; bad indeed to a degree that this growing and independent college boy does not and perhaps cannot appreciate.

The college man is still fundamentally religious. Of course he is. Most men are fundamentally religious. But, not to be content with such a platitude, let me hasten to say that he is less inclined to declare his faith than was his older brother. He hesitates to accept the historic creeds, even one as broad as the apostles'. His articles of belief are based less on ecclesiastical covenants than on the four gospels, and perhaps less on the four gospels than on a philosophy that, under the guidance of the professor of psychology, he has worked out for himself.

He meets the crisis of the skeptic of having doubts regarding the realities of religion. He fights his doubts. In and from the fight he gathers strength—religious, theological, ethical, metaphysical. He comes out of the battle victorious. Of course there are students to whom and in whom the skeptical mood is characteristic. Doubts vanquish their faith. But the typical college man is a man of a religious belief, broad yet firm, fundamental yet flexible, personal and well-buttressed. The result is a treasure that he guards with care. The result is more than a treasure, it is a fighting and glorious force for his life.

But a direct, positive, and exterior change has occurred. This change represents that institution of religion known as the college chapel. The change is a change not in the fact of a daily religious service. The change relates rather to the abolition of the requirement of the attendance of students. That requirement is as old as the chapel service itself; and that service is as old as the oldest college. Be it said, however, that the requirement has seldom been made an integral part of the organization of the state university. It has, however, been made an essential and necessary part of the daily life of the privately organized college.

The movement for the abolition of the requirement, begun more than a score of years ago, has become somewhat general. The special reason for the spread of the voluntary method is found in the unremunerative character, for students, of the service. It has too often been made formal, deadly, and deadening. The students, therefore, have revolted against it. For certain reasons students were justified in their revolt.

The members of the faculty, or whoever led the daily service, should have made that service intellectually quickening, morally strengthening, and of religious vitality. They did not succeed in this high and hard quest. In most colleges the service is still maintained. The service has become of greater worth to those who do, of their own preference, attend, but the number is small. The chapel represents an elective privilege, and the students do not elect.

Respecting neither his religion nor his ethics is the student gifted with enthusiasm. In fact, enthusiasm is neither a characteristic grace nor a constructive virtue. Rather the principle, *nil admirari*, he accepts. He is indeed an embodiment more of calmness than of scorn or indignation or exultation, of intellectual discrimination than of emotional outpourings, of reasoned judgments than of impossible loyalties, of legendary traditions than of self-sacrificing initiative. In even the occasions of athletic victories he has lost much of the vain hurrahs, of the shoutings and of the tumults of a decade ago. But, be it at once said, enthusiasm for scholarship does seem to be increasing, even while the enthusiasm for athletics seems to be declining. In the pool of honors and preferences of many graduating classes, the Phi Beta Kappa "key" is preferred to the letter. The preference for the "key" seems to be deep as well as general.

In respect to certain material concerns are found changes as great as, or greater than, the other changes that I have already sought to interpret. The expenses of the student have increased—vastly increased. The fee for tuition, the rent of rooms, the price of board, have doubled or more than doubled. Four hundred dollars as the annual fee for tuition has now become as common as was $150 two decades ago. The cost of the incidentals, too, shows a similar or even a greater increase. The man who spent five hundred, or a thousand, or fifteen hundred dollars, would now normally be spending twice these sums, and that too without any more extravagance in the later than in the earlier time.

The increase in the charge for instruction is justified and more than justified. For college teachers should receive far larger salaries, both for their own sakes and for the sake of their successors. The reason for the increase in stipend, also, is fundamentally founded on the proper wish permanently to attract into professorships an abler type of the scholar and of the teacher.

The element of heavier cost is joined to the very personal matter of self-support in college. A larger proportion of students are now earning a whole or a part of their expenses than at any preceding time. The proportion is not far from one half.

To earn all the cost of an education while getting an education is a task altogether too hard. For most men such laboriousness eventuates in one of three results: Either the education of the student suffers, or his health suffers, or both his education and his health suffer. To earn money in advance, or to borrow money, if it be possible, is a wiser plan. Earning a part of the expenses is quite a different matter from earning all of them. The wisdom or unwisdom of partial self-support depends on the intellectual and physical ability of the student, on the amount necessary to earn, on the kind of work available, and on the rate of payment. But, in addition to the facilities for self-support, every college has scholarship or loan funds that are available for students able in brain, lean in purse, and giving promise of usefulness. The rise in tuition fee, and the increase of other expenses, should not for an instant turn the youth who has small monies and large abilities away from the college. The colleges are determined more than ever to keep their gateways wide open to deserving men.

With the cost of education is, for certain students, to be bracketed the question of the fraternity. For the cost of membership in a good fraternity is, for some men, prohibitive. The fraternity is a natural development of undergraduate life. It represents the social group, the personal side of that life. Indeed, it represents that side too strongly or exclusively; for it should stand for the scholastic side as well. The cost has inevitably increased in recent decades. The college fraternity is not, however, to be eliminated. It is rather to be nourished: its excellencies to be developed, its weaknesses cast out, its perils removed.

On the whole, fraternities are building houses that are altogether too elaborate, and furnishing and conducting these houses with a luxuriousness that many men cannot easily afford. It is a beautiful and happy life that the fellows live in this environment. The fellowship is captivating and charming. To many members the fellowship is altogether too consuming of time and of scholarly interests. Personal powers and values, which should be disciplined and enriched by solitary study, are half wasted in the charms and inspiration of talk. It ought to be said that, on the whole, the scholarly rank of fraternity men is lower than is the rank of men who are not members of the chapters of fraternities.

But there is an organization of which every student is a member. That organization is his class. To enter college through the same gateway, to enter college at the same time, to leave college at the same beautiful commencement, is a glorious and exultant fact. It is a fact belonging to tens of thousands of students, graduates and undergraduates. To some it is a lasting memorial, to some it is a pleasant experience, to some it is a future ambition. I already see banners hung out bearing the futuristic figures, "1932." "The class of 1932" will be a rallying cry for the next four years in the colleges; and after its graduation it will be a glorious symbol and sign for more than half a century to grateful graduates. The class still keeps its early and constant significance as the chief organization in academic life and annals.

The relation of the college class to the faculty, in the course of two generations, manifests a vast improvement. Rebellions of a class to academic rule and authority have become less frequent. Organized oppositions to individual teachers have largely passed away. Tricks, usually silly ones, are now seldom perpetrated. Such annoyances as bringing alarm clocks into a lecture room and setting them off at a prearranged signal are not suffered. The ideal of a college class as a body of young gentlemen—not too gentlemanly indeed—is regnant. Members of faculties frequently request students to confer with them about the value or valuelessness of their courses. Coöperation has taken the place of antagonisms, confidence of suspicion, and comradeship of remoteness. The undergraduates of both Yale and Dartmouth have within two years made thoroughly helpful interpretations of important elements respecting instruction and academic administration.

One cause, not the only one indeed, of this improved fellowship is found in the systems of student self-government that are established in many colleges. This self-government bears different names, as students' councils or students' conferences, but whatever be the names used, the purpose is the same—to aid students in their community living. The method lies in conferences of students with one another and with members of the teaching staff. The field represents the concerns that in some respects are of minor, in other respects of major, importance. Among the first of such systems was one that was introduced into the University of Illinois in the ninth decade of the last century. The growth of the system is one of the happy facts of recent academic history.

As I bring to a close this long interpretation of the differences between the college man of to-day and the college man of yesterday, there emerge at least two respects in which no change has occurred.

First, the college youth is still the college youth. He represents a highly selected group. He is a union of contradictions. He is intellectual yet emotional; he is emotional yet conscientious; he is careless of details yet insistent on the fundamentals of character and of being; he is not distinguished by his formal courtesies but he is emphatic in his observance of the cardinal virtues; he is a happy being, yet he knows what lonely days are and he has experiences sad and disconsolate; he is a member of a group, yet he lives in himself; he is selfward in his thinking and feeling, but he is seldom self-content or self-satisfied; he lives in the present, but he is an interpreter of the yesterdays and a prophet of the to-morrows.

Second, his mood and attitude toward life may be summed up in the word "expectancy." The college man expects to give his best—his best in mind, heart, conscience, will, personality—to life. He expects to work hard. He expects to do his duty, and he demands that he be allowed to be his own judge of what his duty is. He expects to enter into a life and into a changing civilization that is dynamic, and not into a life and a civilization stabilized or static as was the one that his father knew. He expects that the service that he gives to life is to be inspired by the highest motives, to be wise in its methods, to be filled with the noblest devotions, and to be useful to his generation. He expects to meet life's experiences in the spirit of reasonableness and with a cheer; and to conclude those experiences with a smile on his face, with a song of gratitude on his lips, and with a sense of humble self-contentment in his heart.

My Mystery Ships

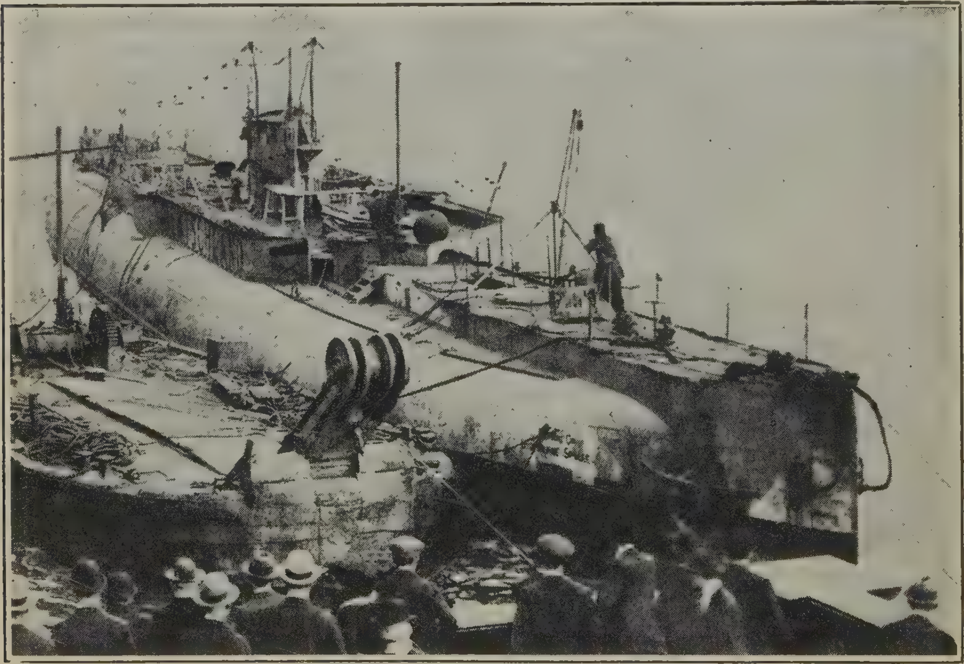
Some Unwritten War History Now Told By

REAR-ADMIRAL GORDON CAMPBELL, V. C., D. S. O.

AFTER THE sinking of *U-68* and our brief visit to Queenstown we continued to cruise around the southwest and west coasts of Ireland. We had not long to wait before encountering another submarine. One was reported off the Orkney Islands on April 13th, and we set off to try to intercept it.

The weather at this period was none of the best. On the 15th a heavy Atlantic swell was rolling in after a stiff gale, a heavy mist hung over the sea, and the visibility was barely two miles. At 6:30 P.M. we were steaming northward, in nearly the same position as when we engaged *U-68*. Suddenly a large ship was seen in the mist on our starboard beam, steering in an opposite direction; her nationality could not be made out, though she appeared to be of foreign build. As we were looking at her a submarine was sighted on the surface between the two of us, but closer to the other ship—which turned out to be the Dutch steamer *Soerakarta*—than to us.

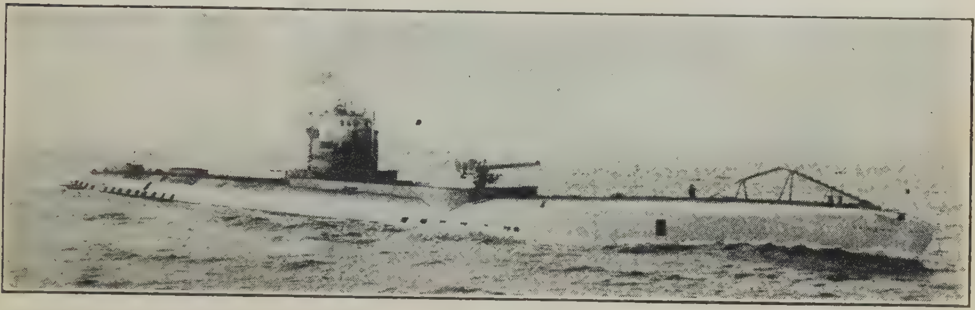
The submarine hoisted a signal, which we could not read, owing to the weather conditions, so I hoisted a pendant meaning "Signal seen but not understood." I had guessed—rightly, as I later ascertained—that the signal ordered us to send our papers on board. In any case, I assumed it to be a signal to stop, so the engines were stopped and steam blown off.



THE COMMERCIAL SUBMARINE "DEUTSCHLAND"
The entire fleet of English decoy ships from Queenstown was used in an attempt to intercept her homeward voyage from the United States.

This was the most visible outward sign I could give that we had complied, as it was too thick for him to judge by eye. I jogged ahead every now and then, however, for we were lying in the trough of the swell and rolling heavily—a thing we wished to avoid, as it would make firing too difficult. In the meantime I hoisted the signal, "Cannot understand your signal."

At the same time the bridge boat was turned out, and Lieutenant Smith, having borrowed my precious hat, assumed the rôle of Master and was about to take our "papers" over to the submarine, the idea being to allay suspicion as well as to entice the submarine nearer. This was one of the drills we had rehearsed, as at this period of war it frequently happened that a ship was ordered to send over her papers. The "papers" consisted of a dummy bundle I kept in the chart room.



A GERMAN SUBMARINE

The submarine was probably just as unable to read our signal as we were his. That I couldn't know for certain, as my flags were high up and free from being masked, as his were by his conning tower. I had in mind that he must also be anxious to carry off a double event. Our boat was nearly in the water when he fired a shot at us that whistled overhead; this was ten minutes after he had been sighted on the surface. In the still air the sound of the gun seemed very close. Unfortunately, one of my gun crews thought we had opened fire and that for some reason they hadn't received the order; in consequence they let the enemy have it.

My hand thus forced, I was obliged to give the general order to open fire, which brought all the guns into action. The submarine was full length on the surface, but about 1,000 yards, away; so, with the mist and swell, shooting was extremely difficult. Twenty rounds were got off from the 12-pounders, and a number from the 6-pounders, Maxim, and rifles. The shooting was good under the circumstances; two distinct hits were seen in front of the conning tower, and a small explosion took place—probably of the ammunition that was at his gun. He was obviously damaged, as he appeared to lie at an awkward angle before submerging.

We steamed to the position where he had submerged, but there was nothing to indicate whether he was destroyed or only damaged. Two depth charges were accordingly dropped, but no oil came to the surface of the water.

I remained in the vicinity for a couple of hours—long after the *Soerakarta* had proceeded—hoping that if he were not destroyed he would come to the surface at dark, which was now setting in. If undamaged, I did not think he would let two steamers go scot-free. I was rather inviting trouble by stopping so long after our identity as a man-of-war had been disclosed, for he might have torpedoed us; but I felt certain we had at least damaged him, and should he come up "out of action" we didn't want to miss the opportunity of insuring his destruction. This submarine is supposed to have gone on down to the mouth of the Channel and attacked other ships. Why he didn't torpedo us I don't know, but nothing further was seen or heard of him in our vicinity.

In the meantime the armed patrol trawler *Ina Williams*, hearing our depth charge, had come up. I sent her to board the *Soerakarta*, to make sure I had not damaged her in any way—she had been almost in the line of fire—and also to obtain information as to what she had seen, as she had been closer to the submarine than we had. The Dutchman reported that the submarine had been struck by our second shot and had sunk by the stern; that the German crew who were manning the gun had been unable to regain the conning tower and had gone down with the submarine; and that the submarine had fired a torpedo at us that had gone wide.

The following account appeared in a Dutch paper on April 24th and shows what it all looked like from aboard the *Soerakarta*:

> The crew of the Dutch steamer *Soerakarta*, which arrived yesterday at Rotterdam from Java, were spectators off the English Coast of a memorable war incident. One of the members of the crew related the following: "We were suddenly compelled to stop by a German submarine. The Captain obeyed the order, and the Germans told us to come to the U-boat with the ship's papers. But scarcely was our boat let down in order to take the ship's papers to the submarine when something tremendous occurred. It was still foggy, and we suddenly saw in the obscurity a gray ship loom up. Sails on the mysterious ship were pushed aside, and at the same time some guns vomited a hellish fire. The German submarine had caught sight of the masked ship probably sooner than we, for it had launched a torpedo—which, however, went wide. Hit by the terrible fire, the German submarine sank in the deep. This war drama was over in a very short time."

Shortly after this the German authorities admitted, according to the Dutch paper, that the submarine engaged in stopping the *Soerakarta* was struck by shots from the British ship, but was only slightly damaged.

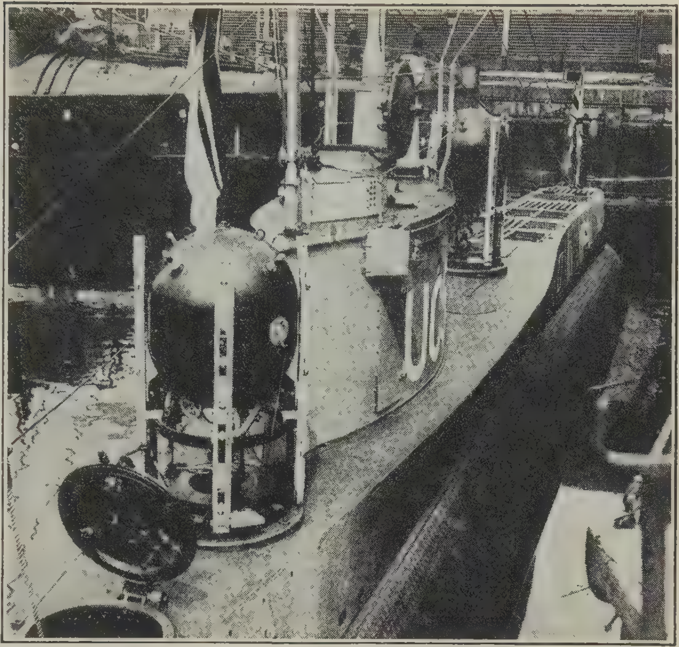
There are probably some who are quite positive that the submarine was destroyed, but the records show that the submarine got back all right. To what extent she was maimed, or whether any casualties were suffered, I do not know.

The next few months were comparatively uneventful; I think the submarines had been recalled for action in the North Sea. But early in August we got sudden orders to proceed to Lough Swilly and had to struggle up the Irish Sea in one of the dense fogs so frequent that year. At this time the German submarine *Deutschland* made her famous trip to New York, and the Commander-in-Chief at Queenstown decided to use all his decoy ships to try to intercept him on his homeward voyage. Accordingly, we sailed from Lough Swilly on August 5th and made our way into the Atlantic. The *Deutschland* was unarmed, and there was really little likelihood of getting him, unless caught unawares at night or in thick weather, as otherwise we couldn't have sunk him on sight; we should have hoisted the White Ensign and ordered him to stop, but we could have taken offensive action only had he tried to escape.

When we were some days out we heard suspicious wireless signals close to us and kept on till we got to the Rockall Bank. This we reached at dark, and we then heard apparently German wireless quite close to us. But we were not able to locate the track of the *Deutschland*, and there was nothing further to be done.

At 8 P.M. on the 18th—our thirteeth day out—we were steaming south, disguised as a neutral, when a submarine was sighted nearly on the port beam, about five miles distant and steering on an opposite and parallel course at an estimated speed of nine knots. It was just on sunset, and we were showing well up against the setting sun; he, on the other hand, was only indistinctly visible against the land. We continued on our course without seeming to take any notice and put on our steaming lights at the usual time. It soon became obvious that he didn't intend to attack us, as he remained steaming northward on the surface, and we were plainly visible. As no submarine activity had been reported for several months, we concluded that he was a mine layer who, having been south and laid his mines, was now returning home.

We therefore decided to try to intercept him during the night. At 8:25 we darkened ship and headed north at full speed. The stokers fired up for all they were worth, and we got 8.2 knots out of the old ship—the best she had ever done. During the night we made slight alterations in the appearance of the ship, so that he wouldn't recognize us. German wireless was heard close to us during the night, and we had great hopes of encountering him; but at daybreak he was nowhere in sight.



THE MINE LAYER "UC-5"
This submarine is similar to the type that Admiral Campbell pursued for two days. Note the two mines on her deck.

We had given him an allowance of 9 knots—the maximum we expected a mine layer to go—and had he been going this, he should theoretically have been sighted. Concluding that he had not been going so fast, we laid off a new track for him at 7 knots and put him on a course for St. Kilda, a spot German submarines frequently made. At 5:30 A.M. we altered course to the eastward, on a course that a ship from America to Liverpool would be taking. This was a bold thing to do in daylight, but any other course likely to cross his path would have aroused suspicion. If our new estimate was correct we ought to intercept him at 6:15; and sure enough, at 6:15 we sighted him on the starboard bow, now about five miles distant, still on the surface and steering northward. He remained in sight for some minutes, and careful bearings were taken, which indicated that if we both continued our courses we should meet. He then submerged. The question now arose as to what to do.

Judging from the previous night, he had no intention of attacking, and apparently he had no guns. The only way to get at him was to attempt depth charges. This was rather a forlorn hope, as it was 6:50 before we got to a position where he might reasonably be; but the White Ensign was hoisted and a depth charge dropped, without any visible result.

We had apparently shot our bolt. Our present course was at right angles to his and so would take us away from him for good and all; to alter round toward his course would leave no doubt in his mind as to our identity, even if he didn't connect the depth charge with us, which was highly improbable.

Loath to leave our quarry, we veered northward. Our hope was to catch him on the surface, within gun range, or to ram him. During the day the neutral appearance of our ship had been removed, the funnel had changed its color, and we now sailed as a British collier with no colors flying.

At 5:30 P.M. we estimated that we were ten miles ahead of him and out of sight; we therefore turned round and took an outward and southerly course, in order to meet him again. At 5:50 P.M. he was sighted on the horizon, heading toward us and apparently charging his batteries. He remained in sight for ten minutes and then submerged. At the moment of sighting him our engines broke down, and we were laid up for ten minutes. Luckily, our enforced halt had no effect beyond the thrill of having the enemy in sight and our engines disabled at the same time.

Forty minutes later, just at the time we knew we should be passing him and our eyes were searching for his periscope, a torpedo was fired at us from the port beam at a range of about 800 yards. It fell ahead of us; a very bad shot on his part, as the conditions were good. There was no sign of his periscope and hence no chance to ram him.

We were now steaming in opposite directions, and the distance between us was increasing rapidly. So at 7:10 P.M., by which time we were presumably out of sight, we turned north once more, hoping to get on top of him as he came to the surface at dusk. But no signs of him were seen. During the night all lights were extinguished, and for the third time in twenty-four hours we altered the appearance of the ship. Our great donkey-boiler funnel, which had been prominent before, disappeared, as did the awning stanchions; and the funnel assumed yet another hue. At daylight we thought we saw him dead ahead against the horizon, but he was hopelessly far away, and we reluctantly turned homeward.

The amount of work put in by our small crew can easily be guessed. The guns were kept ready and manned at the time, the funnel was repainted thrice, whilst structural changes were also made. On the way south, I decided to put into use one of our "big" disguises, as there was no knowing what description might have been taken of us when we dropped the depth charge. We anchored off the coast, out of sight of land, and made the change at night.

On August 22nd, when the Commander-in-Chief was surveying Queenstown Harbor from Admiralty House before breakfast, he wanted to know what ship was that lying out in the roads, stacked with timber, having stump masts and a slight list. None of the staff seemed to know and were busy telephoning to the Examination Steamer, when I turned up and reported S.S. *Farnborough* arrived!

Much to our disgust, we were ordered shortly after to sail as soon as possible for Bermuda. It seemed hard luck—our appetites being whetted, after a dull three-months, by our recent chase and still more by the fact that in September the submarine warfare was in full swing once again—to have to go thousands of miles away. Apparently word about our coal having been afire several months previously had trickled through, and the Admiralty decided that we must discharge our coal at Bermuda, loading timber in its place at Quebec. The change of cargo was undoubtedly advantageous, and as far as possible decoy ships thereafter were filled with wood or with some similar substance.

As soon as we got the orders we buzzed round, anxious to have the job over and to return to the danger zone. I hoped to get through with it in a month or six weeks, but events arose that prevented our return to our old haunts for several months.

It was Christmas Eve when we arrived back at Queenstown, and we spent a busy but pleasant Christmas Day in harbor. The submarines had been active during our absence, and there were rumors of further intensified submarine warfare. There was no time to be wasted, and as we were badly in need of a refit I asked permission to go to Plymouth for this purpose. Approval having been readily given, we sailed at once—but not before Admiral Bayly had been on board and presented Distinguished Service Medals to the men who had won them in our previous actions.

January, 1917, was spent at Plymouth in refitting, giving leave, and studying all that had happened in submarine warfare during our absence. I came to the conclusion that the only way for us to insure decoying the enemy to the surface was deliberately to get torpedoed, trusting to be able afterward to fight with our guns.

I explained my intentions to my crew and called for volunteers to remain, giving any man who wished to leave the ship an opportunity to do so. Every man remained.

During our refit it became known that the German intensified submarine warfare, which meant that all ships were liable to be sunk without warning if found approaching the British Isles, was due to start on February 1st. So we cut down our refit and returned to Queenstown before the end of the month. We sailed again on the last day of January, with instructions to return after ten days.

We proceeded at once to our old hunting ground southwest of Ireland. This was where most of the traffic between America and England passed; where, too, the water being deep and the weather atrocious at times, submarines were fairly free from the menace of mines or the molestation of auxiliary patrol craft. We intended working continually in this area, and some new disguise had to be effected daily. Every night we steamed westward, the dark hours being the time when the submarine would probably be busy recharging batteries or getting fresh air. During the day we steamed east, as if homeward bound from America or Canada with a good fat cargo.

Daily we had reports of some ship being attacked or sunk—sometimes ten or fifteen miles away from us, sometimes one hundred. It seemed to be only a question of odds as to when our turn to be torpedoed would come. There is a deal of difference between being in a ship that will take every precaution against destruction and in being in one that, if a torpedo is seen approaching, will try to make it hit; yet I never saw a crew more anxious for a fray.

They realized that if the German intensified submarine warfare was a success England would be beaten. We were losing some 600,000 tons of shipping of all nationalities a month, and this could not go on forever. And as there was nothing to stop the submarines from coming out, it was up to the auxiliary patrols and to us to grapple with the one weapon that could, and nearly did, bring England to her knees. So it was that, when our ten days were up and we were due to return, I decided to remain out. Three times we were ordered to return, but three times I evaded. I felt we were in touch with the enemy, and there are few orders that justify one in losing touch.

Our chance came on our seventeenth day out. At 9:45 A.M. we were on our "homeward bound" easterly course. The sea was calm, and everything looked peaceful. Suddenly a torpedo was seen approaching from our starboard side; it was fired at a great range, and we should have had time to avoid it, but we wanted to make sure it hit. It drew close to the ship, heading straight for the engine room. At the last moment, when it would be too late for the enemy to see our movement, I put the helm over and brought the torpedo just abaft the engine room. This undoubtedly saved the lives of those below, but the missile caught us on the bulkhead and flooded two thirds of the ship.

Whilst the torpedo was approaching I sang out to the Navigator, who was in the chart house working out his morning observations, "Look out, we are going to get it, all right." He bobbed his head outside and said, "Aye, aye, sir; just time to finish this sight," and back he went to his job, which was to have our position always accurate in case we wanted it.

The torpedo exploded with a great crash and knocked several of us down, including myself. When I got up I couldn't help laughing. It will be remembered that in our drills I would say "Torpedo coming," and then "Torpedo hit" or "Torpedo missed." Now the torpedo had hit and I saw the men rushing for the boats, but on looking over the front of the bridge I saw a group of men still smoking and lolling over the ship's side. I shouted out to know why they weren't making for the boats. The reply was, "Waiting for the order, sir, 'Torpedo hit!'" They then joined the panic party.

Whilst they were getting away in the boats the submarine, not two hundred yards from the ship, watched us through his periscope—proof of the necessity of having even the "panic" correct in every detail. And sure enough it was. The boats were lowered in a fashion enough to give any commander seven fits, and the crew got in anyhow; one boat was only partly lowered and then allowed to jam, so that a rush was made for the next one, but two lifeboats and a dinghy eventually shoved off with "all" the crew.

Meantime, things were happening on board. The torpedo had burst the after bulkhead, and the ship began to settle by the stern so rapidly that our black cat, which had either been blown off the forecastle by the explosion or had jumped over in fright, swam down the ship's side and in board over the stern.

The chief engineer reported that the engine room was flooded, and I ordered him and his men to hide. This they did by crawling on the top gratings—the ship being abandoned, they couldn't come out on deck.

The submarine now came and inspected the ship at very close range—some ten or fifteen yards. From my lookout at the starboard end of the bridge I could see the whole of his hull under water, and the temptation to open fire on the periscope was great. It would have been a stupid thing to do, however, as it would have inflicted no harm. But it looked at the time as if we had gone to the trouble of getting torpedoed for nothing, since he appeared to be moving off. There was nothing for it but to wait and watch the submarine move slowly past the ship and away ahead. All this time the men in hiding never moved a muscle. Had one man become panicky and showed himself, the game would have been up; the scrutiny of the submarine was indeed severe.

At 10:05 A.M. the enemy broke surface about three hundred yards on our port bow, but not in the bearing of any of the guns. The boats had by this time got to our port quarter, and toward them the submarine proceeded. It was only a matter of waiting now, as the conning tower was open at last. It was obvious that the submarine would pass very close to the ship, and we might just as well have all guns bearing, to make sure of our job.

HIGHEST OF AWARDS
The Victoria Cross was awarded to Admiral Campbell after the sinking of the *U-83*. It was also given to several members of the crew of the *Dunraven*.

As the submersible came abreast of the ship the captain was seen coming out of the conning tower; and at this moment I gave the order to open fire. The White Ensign fluttered at the masthead, and three 12-pounders, a 6-pounder, the Maxim guns, and the rifles all belched together. What a shock it must have been for the captain suddenly to see our wheel house collapse, the sides fall down, and the hen coop splutter forth Maxim shots! But he had not long to think, as the first shot hit him. I believe the first intimation the submarine crew had that anything was wrong was seeing their captain drop through the conning tower. It seemed almost brutal to fire at such close range—about one hundred yards—but we had taken a sporting chance ourselves in decoying him to such an ideal position that one really had no thought other than destruction.

Forty-five shells were fired in all, practically every one being a hit. The enemy finally sank with his conning tower shattered and open, the crew pouring out as hard as they could. About eight men were seen in the water, which was bitterly cold and thick with oil. I ordered the boats to their assistance, and they were just in time to rescue one officer and one man—as the panic party called them, a "sample of each." Thus ended *U-83*.

Our main object achieved, the next important consideration was the ship itself. As soon as the submarine had come to the surface, I had wirelessed that we had been torpedoed, and now further signals were sent for assistance.

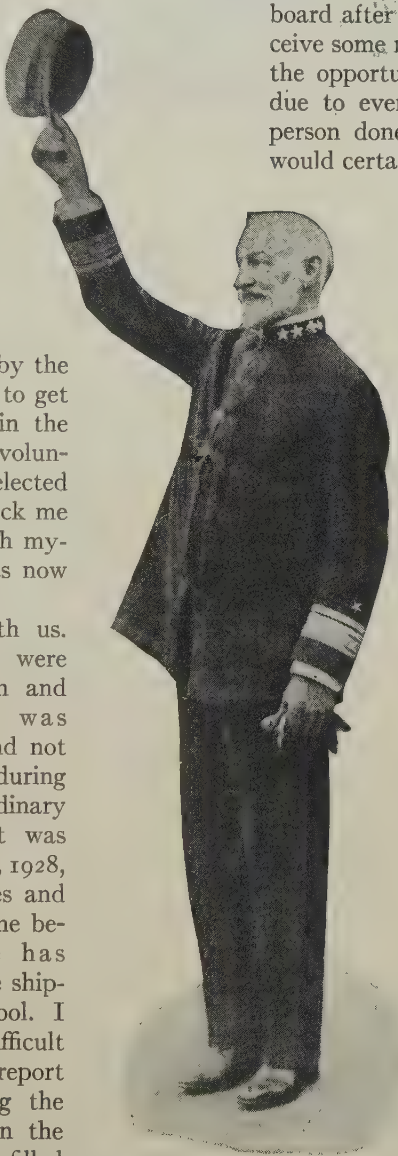
The "panic party" came back to the ship, and a rapid survey was made. The engine room and boiler rooms were full of water, and the two after holds were rapidly filling. I didn't appreciate at that time what stability the cargo of wood would give us, and it appeared that in a very short time she would sink by the stern, as she was surely and slowly settling down. I therefore mustered my crew and called for twelve volunteers to stand by the ship, the remainder to get out of harm's way in the boats. Every one volunteered to stay, so I selected twelve; it never struck me at the time that with myself the number was now thirteen.

But luck was with us. When aid came we were towed to Berehaven and blocked. The ship was eventually salved and not only sailed again during the war, as an ordinary tramp steamer, but was still running till May, 1928, under various names and owners—her last name being *Hollypark*. She has now been sold to the shipbreakers at Liverpool. I found it extremely difficult to word my official report without overstating the case, but having seen the whole action I was filled with the greatest pride in the conduct of all my crew, who might almost be said to have passed through the supreme test of discipline.

I had the honor of being received by H. M. the King a few days later. He informed me that he had awarded the Victoria Cross to me, the Distinguished Service Order to my first lieutenant and chief, and other decorations to several officers and men. In fact, His Majesty wished every man who had remained on board after the ship was torpedoed to receive some recognition. I was glad to have the opportunity to say that success was due to every officer and man; had one person done the wrong thing the action would certainly have been a failure.

My next ship was much the same as our last one—an ordinary tramp steamer of about 3,000 tons and a speed of 8 knots. She wasn't so old as the *Loderer* and, although not quite so long, had a more solid appearance in every way. A mounting of a 12-pounder had just been devised that enabled the gun to fall on its side, so there was less vertical height to be concealed. One push of the gun, and it was up and in position ready for firing. This innovation enabled us to arrange the armament so as to have a very fine broadside of one 4-inch gun and three 12-pounders.

The 4-inch gun was mounted aft on the poop. It was fitted in an ordinary cargo hatch, the sides of which fell down. As this hatch did not wholly conceal the gun we kept the top part covered—sometimes with a dummy boat, upside down, such as may be seen on a ship at sea, sometimes with a crate intended to represent part of our upper deck cargo, or sometimes, as an alter-



SALUTE!
Admiral Sims arrives in England. He had a great interest in the "Q" boats.

NOT ALL SHELLS AND TORPEDOES
The crews of the Mystery Ships found time for things other than warlike.

native, a spar was draped with the ship's wash.

Two 12-pounders were placed, one each side, in "cabins" so realistic that it was literally impossible to tell they were faked. A simple but very effective arrangement allowed the upper part of the cabin to drop when bringing the gun into action. The cabins were fitted with portholes, a dummy door, and a handrail—this last at the place where the crack between the upper and lower parts would otherwise have shown. Two other 12-pounders, tilting ones, were placed amidships and could fire to either side, as desired. One we mounted on the forecastle; then came the problem of concealment. There was already a windlass on the forecastle, and a second would have looked suspicious. Eventually we put over it a canvas cover that had grass line or rope attached to it, so that it passed for a big hawser.

The other 12-pounder was stationed on the boat deck, with the ordinary canvas on the rails hiding it from one view and lumber on the other. At this time every merchant ship was being fitted with a defensive gun as fast as guns became available, and I felt convinced such a visible gun was necessary. Having asked for one in vain, I got the dockyard to make me a 12-pounder of wood, with a brass handle to turn it round by. It was mounted aft and could do everything except fire.

In addition to our guns, we had two 14-inch torpedoes. Tubes for them were fitted on the mess deck, the doors cut in the ship's side being hinged from inside. I had to train some of the crew specially for torpedo work, as I didn't want to take on any more men unnecessarily. This ship had a poop, so we were able to fit our depth charges in the stern, two on each quarter, with ports that could be dropped at will. Our armament was now complete.

The fitting of the ship took nearly two months. We got away toward the end of May and, after a few days of drill, sailed for Queenstown, under the name of *Pargust*.

The United States was now in the war, and Admiral Sims was a frequent visitor at Queenstown; in fact, for some days on one occasion he flew his flag there as Commander-in-Chief while Admiral Bayly was away. We anchored in the roads with a lot of other merchant ships. Much to our amusement and joy, Admiral Sims and Admiral Bayly, who had had no description of us, steamed round our ship, examined us with glasses, and decided we were not the Mystery Ship they were looking for. They then went to nearly every other ship in the anchorage before coming back to us.

When on board, they had not much difficulty in finding the 4-inch gun and the tilting ones, as they were fairly visible to any one on deck, but the two "cabins" quite defeated them. In fact, I stood with Admiral Sims within a foot of the bulkhead of the "cabin" and told him there was a gun a few feet off; he thought I was "pulling his leg" till, by a prearranged wink of my eye, down came the cabin—and the Admiral found the muzzle of a 12-pounder at his chest.

With a loud shout of "Gee whiz!" he took a smart step to the rear.

Admiral Sims from this time onward took a great interest in Mystery Ships. Later in the year the Americans fitted out a ship of their own, the *Santee*, at Devonport. I had the honor of being invited to go over her and to make suggestions, but it was impossible to improve on the job. As bad luck would have it, this very fine ship was torpedoed on her first trip out of Queenstown, and the submarine never came to the surface.

I happened to read Admiral Sims's book about these things when I was at Greenwich War College and found he had described me as being phlegmatic. Not knowing what the word meant, I asked the two captains who sat on either side of me at lunch that day, without disclosing why I wanted to know. The first one replied, "A silly ass," and the second one, "A dull sort of blighter."

Twenty-four hours sufficed for all that had to be done at Queenstown, and by the last day of May we were back to our old hunting ground. We soon had visible evidence that the submarine menace was at its height. Steaming past the southwest corner of Ireland at daybreak, we sighted what we at first thought was a periscope and at once we got ready for action. On seeing several more we began to rub our eyes. When conning towers also appeared, we knew something was amiss, but it wasn't till we got close up that we found a ship had been torpedoed and sunk, and some thirty men were struggling in the water amongst pieces of wreckage. We were able to rescue about twenty—two Scotch engineers and the remainder lascars. Four of the lascars died soon after we got them on board, and I buried them at sea.

I now had sixteen additional men on board, fourteen of whom spoke no English, and they created something of a problem. American destroyers closed us during the forenoon, however, and relieved us of our guests. We were never keen to take on survivors of sunken ships, but it had to be done in the interests of humanity. In addition to the fact that they were a nuisance aboard, there was always a certain amount of risk in stopping to transfer them.

We had no orders about returning to harbor this time, and we felt confident we should have another engagement before we returned. And so it proved. June 7th was a nasty day; in addition to a choppy sea, we encountered heavy rain and thick weather. We were steering east at 8 A.M. when a torpedo was fired at us from the starboard side at close range. We couldn't have avoided it had we wanted to—it jumped out of the water and hit the ship bang in the engine room, making a 40-foot hole and bursting the after bulkhead. The engine room and boiler room were at once filled with water, as was No. 5 hold. There was no need to say "Torpedo hit" on this occasion!

The helm was put to starboard in order to form a lee for the boats, and the panic party rushed to the boats. One had been smashed; the remaining lifeboat and two dinghies were lowered and filled with the crew. Our dummy defensive gun was abandoned without firing a shot, incidentally, though the crew went through pantomine performances of trying to load it. Our only casualty was the man in the stokehold, who was blown to pieces. The second stoker was more fortunate—he had just been sent on deck with a message.

At first we could see no signs of the submarine, but as the last boat was shoving off we saw his periscope about 400 yards away; he was coming straight toward the ship for his inspection. I glanced through my slit and saw the crew on the forecastle lying still as the deck itself—not a speck of a face to be seen. They knew nothing except that the ship had been torpedoed, and their duty for the time being was to pretend to be part of the deck. My admiration for them was intense, as although every one else on board was concealed, the others could at least breathe in comfort and move their muscles.

The submarine, with only periscope showing, came to within about 50 feet of the ship, passed close to the boats, and submerged. A little later the submarine broke surface 50 yards off the ship, but he didn't open his conning tower, and although one lucky shot might have disabled him I

LAST OF THE GALLANT "DUNRAVEN"

The conduct of the crew in this engagement with the *U.C.-71* drew from Admiral Campbell his unqualified praise. The ship had already been torpedoed and the magazine exploded when this picture was taken from the boat deck.

preferred to wait for the lid to open. He was parallel to the ship and pointing toward our stern, where Hereford and his lifeboat were. Hereford knew I didn't want to open fire on a bearing on the quarter, as my 4-inch gun would not depress far enough; therefore, with great cunning and coolness, he proceeded to pull toward my starboard side. The submarine followed him round—taking, of course, a bigger circle.

By the time Hereford was on our starboard beam I could see the submarine coming close up under our starboard quarter. His lid was now open, with an officer with a megaphone on top. I never took my eyes off this officer; as long as he was up I knew I could withhold my fire. Hereford started to pull toward the ship; his job was done. The boat crew all but laughed to see the submarine slowly decoyed to destruction, and they had to be reminded that they were woe-begone shipwrecked mariners—it would never have done for them to have burst out laughing.

There was nothing more to wait for—the submarine was abeam of us and about 50 yards away—so at 8:36, thirty-six minutes after being torpedoed, I gave the order to open fire. The first shot hit the conning tower, and shot after shot followed suit; it was practically point-blank range.

The submarine heeled over to port after the first two or three shots. He stopped when on my bow, with a heavy list to port, and oil poured out from him. A large number of the crew came out of the after hatch and the conning tower and held up their hands; I took this to be a signal of surrender and ceased fire. But the submarine at once forged ahead again. Although she was apparently done, I was obliged to reopen fire. After a few more shots an explosion took place in the submarine, which fell over and sank about

300 yards from the ship—four minutes after we first began to fire.

Several men were floundering in the water, and the boats went to their assistance in time to save two. As in our previous action, wireless signals were now sent out for help. Although the *Pargust* was in far more stable condition than was *Q-5*, we had no engines and so were helpless. The submarine turned out to be a mine layer, the *U. C.-29*. It was a long way out for a submarine of this class to be, as the water was far too deep for laying mines.

We lay inert till 12:20, when the *Crocus*, a Queenstown sloop, arrived and in a very seamanlike manner took us in tow. H.M.S. *Zinnia* and U.S.S. *Cushing* also came up, and the prisoners were transferred to the *Zinnia*, which took them direct to harbor. The tow was uneventful. After the ship was in drydock we found that repairs would take so long that we got permission to pay her off and start again.

I was ordered to convey to the officers and men under my orders the Admiralty's high commendation of the discipline and courage shown by them in this encounter, but the greatest honor of all came to us when H. M. the King approved of awarding one Victoria Cross to an officer and one to a man of H.M.S. *Pargust*—the recipient in each case being selected by the officers and men respectively. This was the first time in the history of the Navy that a whole ship had been so honored.

My officers wanted me to be the officer recipient, but I could not agree to this, as I felt that the Victoria Cross I already wore was really on behalf of my crew. So the crosses went to Lieutenant Ronald Neil Stuart and Seaman William Williams.

I have said that any one man could spoil the show; I might have added that one man could likewise save it. When the explosion of the torpedo took place the releasing weight of the starboard gun ports was dislodged by the force of the explosion, and but for Williams's great presence of mind in taking the whole weight of the port on himself and so preventing premature exposure of the gun the outcome might have been disastrous.

No time was lost in finding another ship to fit out—this time the *Dunraven*, a ship of about 3,000 tons but slightly larger than either *Farnborough* or *Pargust*. I decided on this occasion not to change the name at all. She had a much larger poop than her predecessors, and a length of 331 feet. Her one fault was that the donkey boiler, which was down below, would be put out of commission if the engine room were

H. M. S. "SAXEFAGE"
This British Mystery Ship is shown with typical wartime camouflage.

torpedoed; but she was so suitable otherwise that this had to be accepted.

In fitting out the *Dunraven*, improvements were made in many details. We placed tilting 12-pounders on the forecastle—one to a side—a tilting 12-pounder on the after end of the boat deck, and a 4-inch gun on the poop. We also got a real defensive gun, a 2½-pounder; the dummy 12-pounder salved from *Pargust* we carried on the mess deck as a curio.

The fitting of the poop played a large part in the subsequent action and is worth following with some care. Right aft, on the raised platform that was then usually seen in other tramp steamers, was the 2½-pounder, visible to all. In a hatch on the poop deck was the 4-inch gun. That the gun might have a practically all-round fire, the rail round the poop and the shrouds of the mainmast were easily removable. The sides of the hatch were hinged to fall outward by their own weight; the rails round the poop, hinged to fall inward, were connected by wires to the sides of the hatch. The rigging of the mainmast was also fitted with slips, which in their turn were connected to the sides of the hatch.

Now the hatch itself was kept up by a tumbler and pin. The net result was that when the pin was removed the sides of the hatch fell flat on the deck; in doing this they pulled down the rails, the slips of the rigging were released, and the shrouds fell toward the mast. In order to avoid any risk of premature exposure the pin on which the collapse of the whole contraption depended was securely kept in place, and it took a good blow to dislodge it; but once removed it was essential that no speck of grit should impede complete collapse, and all the leads and blocks of this arrangement had to be kept in perfect order.

On the front end of the poop were three samson-posts, which could be removed at will. On the center one was a derrick that lay directly over the top of the gun; the topping line of it led to the top of the center samson-post and had a weight attached to it inside. The end of the derrick was attached to the after side of the hatch. Lying on the derrick and concealing the part of the gun above the hatch were odd bits of clothes or dirty canvas hanging up to dry. When the sides of the hatch collapsed the derrick was also released, and the weight inside the samson-post pulled the derrick, together with what was on it, up in the air and clear of the gun.

Just beside the hatch was what appeared to be an ordinary hawser reel—a round steel drum on which ropes are wound. In reality, it was a dummy provided with slits and a small periscope; this was the post of the officer of the gun, who reached it through a trapdoor from below.

The inside of the poop was quite large. In it were two depth charges, ready to be released through the stern posts; the 4-inch magazine and shell room; and the 2½-pounder magazine, ready to feed the guns if the supply kept at the guns themselves became exhausted.

By this time nearly all merchant ships were fitted with wireless, so we no longer needed to conceal our aërial.

It happened that about this time a large quantity of railway trucks were being sent to the Mediterranean—I think for Salonika. We hit upon the idea of taking along four full-sized trucks, made of canvas and wood and easily collapsible, so that we could display them or stow them away. I also had the ends of the bridge armored with one-inch plating—which, of course, had the wood planking outside it; and but for this precaution I should not be writing now.

We introduced a further innovation in the form of a perforated steam pipe, which was led round the upperworks. Steam admitted from a valve on the bridge escaped from hundreds of tiny holes and enveloped the center of the ship in a cloud of vapor. The idea behind it was that, in the event of being shelled, we could make it look as though we had been hit in the engine room.

These three innovations—the railway trucks, the armored bridge, and the steam pipe—all played an important part in the next action, though we had never before required them.

Thanks to the coöperation of the dockyard, we fitted this ship out in record time. Although my crew had been kept together and were working on the fitting out, we didn't actually commission till they were able to live on board, which was July 28th—seven weeks after our previous action and eleven days before our final one.

On leaving Plymouth we set course for Gibraltar, sailing as a Blue Funnel steamer and with an upper deck cargo of four railway trucks—obviously bound for Army service in the East and therefore an attractive bait. During the first three days out we received wireless reports that indicated that an enemy submarine was busy in the Bay of Biscay, and furthermore that her commander appeared to favor his gun in preference to torpedoes, as ships were being attacked by gunfire.

This method of attack was not what we wanted. In the case of being torpedoed, there was a reasonable chance of decoying him to come close to the ship; but he could shell a ship with gunfire at long range, and there would be no particular reason why he should close until the ship at which he was firing was put out of action.

How was this sort of attack to be dealt with? The ship was a big target to the submarine, and the submarine was a small target to the ship. We had thought out a long-range gunfire attack in harbor and arranged every conceivable detail for attempting to decoy a submarine close to us. On no account did I intend to open fire at a greater range than 1,000 yards, unless a premature explosion or other accident disclosed our identity. Judging from our wireless reports, we appeared to be closing toward this gunfiring submarine, and on the night of August 7th I altered course to the northward on a homeward track to meet him. This necessitated collapsing the railway trucks and laying them on the deck, as no ships carried railway trucks to England.

The next day we sighted our submarine. It was at 10:58 A.M., and we were following a zigzag course, as all merchant ships did in those days. The submarine was sighted on the horizon just before our starboard beam and steering toward the ship. We assumed our usual rôle of pretending we had a bad lookout and did nothing. He remained in sight till 11:17, when he submerged. We still hoped he was going to torpedo us, but forty-five minutes after we had sighted him he came up nearly dead astern, at a distance of about 5,000 yards, and opened fire.

Our Red Ensign was promptly hoisted at the ensign staff, and the 2½-pounder gun at once returned the fire. All the shots fell short, in order to encourage him closer. The crew also had frequent missfires and delays; in fact, their firing was disgraceful —as it was meant to be.

The ship herself seemed to be trying to escape; in reality, we reduced speed by one knot—which also reduced the range—and in order to avoid detection of our stratagem we made as much smoke as we could. In addition, we attempted to assure the enemy of our bona fides by making fake wireless signals *en clair*. There was a chance he had his aërial rigged and would take them in; we therefore sent out such signals as "S. O. S.," "Submarine chasing and shelling me," "Submarine overtaking me," and "Help, come quickly." None of these signals mentioned our position, however, so that no one could interfere with us.

The shelling was very persistent, but nearly all the shots fell just over our bow—in fact, we were steaming into them all the time. Of course, the submarine could not see the splashes and was probably under the impression he was hitting us. At 12:10, after having shelled us for half an hour and satisfying himself that our after gun wasn't much good, he ceased firing and steamed toward us. Fifteen minutes later he turned broadside and reopened fire. He was now about 1,000 yards off, and I passed the word along to stand by to abandon ship.

The psychological moment to do so came at 12:40, when a shot fell a foot or so off the ship's side, abreast the engine room. I instantly turned steam on from the bridge and let loose the clouds of vapor that were meant to convey the impression that we had been hit in the engine and boiler rooms. At the same moment the ship was stopped the "panic party" got busy, and the usual pandemonium reigned.

The submarine now closed rapidly, but

fired three more shells for good measure. Unluckily for us, the first of these hit the poop, and a big explosion followed. I thought at first that the magazine had blown up, but a few minutes later, when the steam cleared, I saw that the poop was still intact and our secret not disclosed. I later concluded that only a depth charge had exploded; in any case, two of my men were severely wounded, and Bonner, the officer of the gun, was blown out of his hawser reel. But with great presence of mind he crawled into the hatch with the 4-inch gun's crew. The last two shells also landed in the poop and set it on fire, so all in all the prospects were not exactly hopeful.

Meantime, the panic party had been busy, and the boats were just leaving the ship. The submarine would soon pass under our stern, but black smoke was pouring out of the poop and blowing straight over him. I was now in a terrible quandary. I knew that the poop would blow up—and with it the gun's crew. Yet I couldn't order the crew to leave the gun, as the ship was ostensibly abandoned, and the boats were away. If I opened fire I might save the men on the poop, but should we get the submarine? I doubted it; the target was too hazy.

If I waited a bit, however, he would soon be through the smoke and on our weather side, when we'd have a better chance to get him. Cold-bloodedly to leave the gun's crew to their fate seemed awful, but our duty was to sink the submarine. By losing a few men we might save thousands not only of lives but of ships and tons of the nation's requirements.

At 12:58 the submarine was passing our stern; it was only a matter of seconds before he would be within 400 yards of my three 12-pounder guns. At this instant a terrific explosion took place, and the whole ship shivered. The stern of the ship was blown out, and the 4-inch gun and crew were hurtled into the air. The dummy railway trucks now came into play in a way I had not foreseen. All the gun's crew except one landed on the trucks, and the canvas and wood they were built of broke their fall before they reached the iron deck, with the result that no one was killed. The odd man landed in the water and was eventually picked up, none the worse, by the panic party. The gun itself landed on the well deck, and shells landed all over the ship, but luckily not a one went off.

Had this disastrous explosion delayed a few seconds I might have had a different tale to write; but there it was, and we had to make the best of it. As soon as the detonation took place the submarine did a crash dive, but not before a couple of shots had been fired at him, one of which may possibly have been a hit. The White Ensign was now flying at the masthead, and the gun ports were down; in short, we were a man-of-war in all respects, and we fully expected to be torpedoed. In the meantime, I had the wounded removed to the saloon and cabins, and hoses were rigged and turned on the poop. We could not get very near, as the whole place was in flames and the deck red-hot.

What more could be done? Nothing—except to await the inevitable torpedo and have another attempt to decoy the submarine to the surface once more. It was a sporting chance, with the odds heavily against us. To wait on board a ship, with engines stopped and a fire raging round the big magazine, for a torpedo to be fired at you was certainly asking for trouble; but there was a certain amount of humor about it all, and several of us had small bets as to where it would hit.

We didn't have long to wait. At 1:20 a torpedo was seen approaching from our starboard side, fired at a range of about 1,000 yards. As this was the fifth time we had watched a similar approach it left us rather cold. It hit just abaft the engine room, and hatches and railway trucks were blown about the place.

I now ordered abandon ship, and a second group of men started a new panic party. The boat that had been left end up was lowered and filled, the original panic party returned to pick up a few more men, and a raft consisting of barrels and spars was launched. This, we thought, would convince the enemy that a final abandon-ship was in progress. Remaining on board were two gun crews, two men at the torpedo tubes, four of us on the bridge, the chief and one stoker, the doctor and the nine wounded men—thirty-four all told, of which only twenty-three were fit for fighting. The gun crews that I kept back were the one on the forecastle, which had a good arc of fire, and the "cabin" gun's crew, which could man, unseen, either the port or starboard gun.

At 1:40 P.M. the periscope of the submarine was sighted on our starboard bow, and for nearly an hour he steamed round and round the ship, with an occasional turn toward the boats. I debated the wisdom of trying to torpedo him. He frequently offered a good target, but I had no great faith in my torpedoes, and I finally decided to wait a chance of gunfire. I thought that sooner or later he would be sure to come up.

While this trying inspection was going on, the fire on the poop was still raging, the magazine and shells were exploding in penny numbers, and the resultant din was incessant. Then, too, water slowly but surely was flooding the ship. Steam in the boilers was dying out, and as the ship had been "abandoned" it would never have done to stoke up; smoke from the funnel would have betrayed us. We thus reduced any chance of escape still more.

At 2:30 the submarine came to the surface, dead astern of us and a few hundred yards distant. Our 4-inch gun had gone, the 12-pounder on the boat deck was masked by the mainmast, and no other gun would bear. I thought of shooting away the mainmast but realized that before this could be done the submarine would dive. As it was, he opened fire with his big gun as soon as he broke surface and shelled us for twenty most unpleasant minutes.

A Maxim was also firing at the boats, and several of the shots fell very close to them. They pulled away, but Truscott, in the dinghy, kept as close as he could to our ship. He told me afterward that things looked ugly, and he was going to save us if he could.

The first shell of all burst on the bridge, and it was now that our armored ends were of service. But for them both Hereford and I would have been killed, for the plates were covered with splinters. Hereford got one in his head—but happily only a small one.

It was surprising what comparatively little material damage was done by this heavy close-range bombardment. Our men stood the strain marvelously, and not one moved. I reminded them through the voice pipe that the ship had the honor of the Victoria Cross to maintain; but I don't think we could have stuck it much longer, as it appeared that the submarine would shell us till we were reduced to a floating furnace or until we surrendered —which was not to be thought of.

At 2:50 he ceased fire and submerged. Apparently he had no intention of running the slightest risk, so when he passed the ship again at a distance of about 150 yards, with only periscope showing, I personally fired the port torpedo at him; but it must have passed over him. Anyhow, he couldn't have seen it, for he circled round our bow. I now ordered Hereford to fire the starboard torpedo, but it either failed to explode or grazed over the top, as we could distinctly hear it make contact. The submarine heard it, too, and promptly submerged.

The game was now nearly up, and I signaled for assistance. I thought the enemy would now torpedo us till we sank, and I hurriedly arranged, pending the arrival of assistance, that when torpedoed all the men remaining were to abandon ship except one gun's crew. But the next torpedo never came. I have since learned that the submarine had none left; nor could he attack us again with gunfire, for very unexpectedly an American yacht, the *Norma*, came up. She sighted and fired at the periscope—without success, however— and at 4 P.M. was close alongside. H. M. destroyers *Attack* and *Christopher* arrived soon after.

The action, which had lasted for nearly five hours, was now at an end. Having lost our quarry, we now made every effort to save the ship. The poop had been completely gutted; the last thing to explode was a small box of tubes. I couldn't help laughing—it seemed so stupid and futile, after all the explosions we had had, to see a box of tubes explode like a squib.

After giving the necessary orders to get ready for towing, I went to the saloon to see the wounded. It is hard to put anything into words—one man was sipping blood to quench his thirst, but all were cheerful, and their only question was, "Have we got him, sir?" When to my everlasting regret I had to tell them we hadn't, they said: "We've done our bit." And, if ever men had, they had.

By 6:45 the *Christopher* had us in tow, and course was shaped for Plymouth. The Chief had reported that he was unable to raise steam; the engine and boiler rooms already had several feet of water in them, and the water was gaining faster than we could pump it out. At about 1:30 A.M. I felt the ship was going and ordered all the crew to fall in on the well deck forward. They did so in silence; it was pitch dark and blowing very fresh.

The *Christopher* now sent her whaler, an open boat with four or five oars. I realized that with the heavy sea running it would make only one trip—and also that it would be unwise to put more than four men into her. So I gave the order, "Four men to get into the boat." Not a man moved; they all knew there would be but one trip, no one wanted to go before the others, and I had to name the four to go. The water was now rising round us, and I ordered the remainder to fall in on the forecastle head. Still there was absolute silence, except for the wind and sea.

The *Christopher*, taking in the situation, bumped her bow against ours, which was gradually getting higher out of the water as the ship went end up. This was a most delicate operation, as a destroyer's bows are very thin. She would bump alongside and then fall off with the sea; each time she bumped one man would jump, in the darkness, from our deck to hers, but no man jumped till he had received my personal order. Discipline held to the end. By the time I got to the bridge of the destroyer the *Dunraven* had gone, and only a bit of her stem was visible. The *Christopher* fired a few rounds, then dropped a depth charge; and at 3:17 A.M. the *Dunraven* disappeared beneath the waves.

As I said in my report, "I—we—deeply regret the lose of one of H. M. ships and still more the escape of the enemy."

There was not a ghost of a chance of salvage, the ship having sunk in some sixty fathoms. The only optimist was some one in the Postal Department; when I wrote asking for the replacement of my lost war-savings certificates and stating how they had been lost, I received a reply that I must wait six months, in case they were recovered! We had, of course, lost everything, and I was dumped ashore in all I possessed—a jersey and trousers, with a whistle and binoculars round my neck.

When I reported to Admiral Bayly at Queenstown he told me that I was not to go on in this sort of work any more. You can imagine how I felt. Not only was I keen on the job myself, but I felt I should be letting my crew down if I didn't keep on. As I was pleading my case, a telegram was brought in for me that read: "Crew of *Dunraven* all volunteer for further service under your command." But it was of no avail; my service in Mystery Ships had come to a close. But I had the privilege of going on with Admiral Bayly as his flag captain.

The official report had to be seen to. What was I to say about my crew this time? And what of the after gun's crew? They had given every ounce in them—as witness Bonner, who had landed on the railway trucks after the big explosion. He crawled to the bridge, in spite of being badly burnt and wounded, and said to me, "I am sorry, sir, for leaving my gun without orders. I think I must have been blown up." He then asked with whom we were in action; when I enlightened him he said, "Is that all? I thought it was at least a battle cruiser."

I discovered on investigation that, unknown to me, at the time of the first big explosion the communication between the bridge and 4-inch gun's crew had been broken. After having tried in vain to get through to report the situation, Bonner and his gallant crew concluded, as I had, that they must wait where they were. Had they moved they would have spoilt the show, since the ship had already been abandoned and no one was supposed to be on board.

Their deck got red-hot, and knowing the magazines were underneath, one young fellow tore up his shirt and stuffed it in their mouths, to keep the fumes out; others lifted boxes of cordite off the deck and onto their knees, to delay the inevitable explosion. Surely such bravery is hard to equal. They went through the greatest ordeal, but the others on board had also a most trying time. Here was a ship on fire, alone in the Bay of Biscay, with torpedoes, depth charges, and magazines going off at odd intervals, and still the men remained concealed at their posts. In my report I summed up the feelings of us all when I said, "We did our best not only to destroy the enemy and then save the ship, but also to show ourselves worthy of the Victoria Cross the King recently bestowed on the ship."

The German account of this action does not differ materially from my own. Apparently the submarine did not suspect us in any way until the big explosion took place; up till then he was completely taken in by the steam and thought he had really hit us in the engine room. He claimed to have scored ten hits in his close-range bombardment, and when circling the ship afterward saw no signs of life aboard. Apparently he heard the second torpedo pass close to his periscope, but had none left himself for a further attack. I am sorry that Salzwedel, the Commander of the submarine—the *U.C.-71*—was killed later in another submersible; the *U.C.-71* also came to grief.

Admiral Sims wrote me as follows:

> I have had the benefit of reading some of the reports of your previous exploits, but in my opinion this fight of the *Dunraven's* is the finest of them all as a military action and the most deserving of complete success. It is purely incidental that the submarine escaped; that was simply due to an unfortunate piece of bad luck. The engagement, judged as a skillful fight and not measured solely by its material results, seems to me to have been perfectly successful.
>
> According to my idea of such matters, the standard of conduct set by you and your crew is worth infinitely more than the destruction of a submarine. Long after we are dust and ashes, the story of this fight will be an invaluable inspiration to British and American naval officers and men—a demonstration of the extraordinary degree to which the patriotism, loyalty, personal devotion, and bravery of a crew may be inspired.

The First Lord of the Admiralty, Sir Eric Geddes, handed me a hand-signed letter, which he very kindly had had photographed to enable a copy to be given each member of the crew. It read:

> It is with very great pleasure that I convey to you, by the direction of the War Cabinet, an expression of their high appreciation of the gallantry, skill, and devotion to duty which have been displayed through many months of arduous service by yourself and the officers and men of His Majesty's ships under your command.
>
> In conveying to you this message of the War Cabinet, which expresses the high esteem with which the conduct of your officers and men is regarded by His Majesty's Government, I wish to add on behalf of the Board of Admiralty that they warmly endorse this commendation.
>
> Will you please convey this message to all ranks and ratings under your command?

The greatest honor came, as usual, at the hands of H. M. the King. Lieutenant C. G. Bonner was awarded the Victoria Cross, as were the after gun's crew. Petty Officer Ernest Pitcher, the captain of the gun, was selected to receive the Cross itself; the remainder of the crew were awarded the Conspicuous Gallantry Medal. A posthumous Conspicuous Gallantry Medal was conferred on Seaman S. S. Morrison; and in addition to other special awards, all the men who had served with me since October, 1915, and had not been previously decorated received the Distinguished Service Medal.

In a quiet corner of the barracks I took leave of my very gallant crew. No applause, no cheers, when men have faced death together—this sort of thing is out of place. A finer crew no man has ever had the honor to command.

The Newest Fad in Education

Vocational Training and the Millions It Absorbs

MONTAVILLE FLOWERS

A FAD is what everybody does because everybody does it. Almost every phase of life is subject to the rage; sense, taste and precedent, comfort and cost—all fall before the fad; and as in dress, in slang, in music, and even in religion, so in education fads have come in and gone out, registering upon life results that range from high value to deep detriment. "Men dress their children's minds as they do their bodies, in the prevailing fashion," said Herbert Spencer. It is no proof of the merit of a new educational fad to find that the colleges, secondary schools, and the grades are all doing it.

Three such fads came and went in the twenty-five years between 1885 and 1910; one foolish but harmless one, with the basis of permanent good, and one positively bad. The first was the "object lesson," which swept the elementary schools of the country; its inane practice was finely caricatured by James Whitcomb Riley in his story of the peanut, which, funny as it was, especially when he read it himself, was not so funny as was the teaching of the time. The second was the rage of discussion called "The New Education," of which the central idea was the introduction of manual training, the first step in utilitarian education. The third fad was vertical writing, ushered in by the fine exhibits of the schools of England at the Chicago World's Fair in 1893, and by 1900 it had taken the country by storm. The old art was wrecked and the new one, too; the left slant was brought in to save the day—which made matters worse—and then a silent retreat to the old Spencerian system was begun. That fad produced a generation of the poorest penmen that America ever saw.

The latest fad revolves about two words: "vocation" and "guidance." We might say the coming fad, because it is not yet fully in, as is evidenced by the fact that the meaning and the scope of application of these terms are not clearly defined even among its sponsors; nor is there accord in regard to the relative values of the old studies and the new work, resulting in various stages of transition and in diversity of curricula that are bewildering. On the whole, it has not affected rural communities, except as an agricultural high school dots the country here and there, maintained by Federal aid. Some cities, like Washington, D. C., have it not at all except as represented in a technical or business high school; others, like Los Angeles, are taken by it; others, like Cincinnati, steer a middle course that seems to offer enough of the good of the new without forsaking the proved merits of the old.

But beginning in Boston, where the idea was born, and passing westward into Kentucky and Kansas, where it has not disturbed the old régime except in two or three large communities of each state, there is a miscellany of objectives and accentuations; and although in the secondary schools of the cities where the experiment has had its longest vogue it seems to be conducted with sincerity, yet its meaning has not been caught by the students and has made little impression upon them. The present situation for the nation may be summed up in the statement of an official of the National Education Association: "The subject of guidance and vocational education is still in a confused and formative state in this country."

But it will become a fad, because all of the agencies to make it one have arrived. It has been given the impetus of special law and finance by the Federal Government in the Smith-Hughes Act, which established a Federal Bureau of Vocational Education at Washington and a state director in every state capital. These state directors and others in the field have coordinated all the guidance associations into a new national association that held its first convention in Louisville in December, 1926. A section of the National Education Association is devoted to it, it is ably represented by special magazines; courses of study in it are offered by universities; textbooks for teachers and students, questionnaires, filing card systems and records are on the market—such is the organization. What are the incentives?

Vast millions are to be spent in this innovation. The Federal Government appropriates $7,000,000 per year, the states duplicate the amount, local boards of education furnish facilities and equipment—and this represents but a fraction of its present cost. When the American Vocational Association adjourned at the close of its first convention its members went home, according to the statement of its president, filled with the urge to organize state and local associations to spread their enthusiasm. Everywhere the heads of schools or school systems are struggling to add the involution of this new educational turn to their pedagogical gymnastics. Here is the largest opportunity to expand the teaching field and teaching force ever offered to education. Underlying all, the vocationist is soundly converted to his faith that he has a full solution for the problems of education and occupation.

The word "guidance" is the root and trunk of the system. Its altruistic purpose is to help every child to find his life work and to choose the studies and training that will assure him success in it. It would make of every grade, beginning with the sixth or seventh year, a place of retail, not wholesale, life preparation; of the acquisition of special, instead of general, knowledge. As a prerequisite to its operation educators must chart three worlds: *first*, the individual capabilities of each child; *second*, the mental and physical essentials for success in every employment; *third*, the courses in knowledge and skill that will equip any child for his place in society, once designated. The first category includes the whole domain of psychology, the second includes the whole domain of practical affairs, the third includes the whole domain of pedagogy; it is the most definite but prodigious undertaking in the history of the theory and practice of education.

The goal of guidance is life work, how

to choose it, how to prepare for it, how to succeed in it. The processes and technique of guidance have developed new phrases in the parlance of the schools, and a brief review of them is essential to a full understanding of the subject. The groundwork for the choice of a vocation by the student is laid in the study of "occupations." For this a textbook, or little pamphlet, describing and illustrating the requirements, tools, work, and rewards of some one line, is used. These studies are supplemented by talks given by men and women who have been successful in their respective fields, and by visits made by the students to stores, factories, and institutions. To all this academic study the term "vocational guidance" is given.

This academic work the teacher must complement by a study of the child's capacities and bents. To discover these, some schools permit the students to try out two or three different lines of work, each extending over a term, these experiments being held to the early terms of his attendance. He is subjected to intelligence tests by the teacher, physical examination by physicians, and tests by experts in psychology; a record is made of his home life, his parents, brothers, and sisters, and their occupations, and what he has done in previous school work; upon this data the teacher or special advisor recommends to each student the courses of study and work that he should undertake, the lines of life work for which he should prepare, and, later on, the schools and colleges where he may go to finish up.

"The teachers, by various tests and records, assort the children and steer them into courses according to their abilities," said the head of this section of vocational education of a large city. To all this direction of the individual the special term "educational guidance" is given. As there are more than 500 occupations, some 3,000 industrial employments alone, or about 9,000 different jobs on the one hand, and on the other schools without number that offer courses in training for special ends, the guidance teacher must possess encyclopædic information, unerring powers of psychoanalysis, and intimate contact and acquaintance with every child.

The last statement is stoutly combatted by writers of textbooks on occupations; but it is apparent that the teacher is, herself, the first problem and limitation of guidance. "Our city is full of college graduates in education," said the director of vocational education, "seeking positions as counselors or vocational guides, who have no qualifications for the work. These girls, for they are mostly girls, are fresh from college where they have had courses in mental tests, occupations, etc., and feel that they are fitted for educational and vocational guidance; but they have had no world contacts; they have passed from the elementary school through high school and the university without a detour into experience; they have had no contact with the intricate complex of practical affairs, and after they get into the schools they will have no such contacts; how can they guide through what they do not know?"

However, the student so directed having made his choices, his training in them begins, and this training is termed "vocational education" or "vocational training," but there is much disagreement upon what may be included under these terms. For instance, manual training, manual art, domestic science, and domestic art, which have stood for more or less clearly defined school work, are called vocational education by some, vocational training by others, and are denied a place under either caption by still others, who claim that these courses are too elementary and too aimless; that originally they were tuned into the old régime, whose objective was mental development, and were keyed ~~to~~ the question, "How can we use these experiences to aid the pupils to think?" and that vocational training is a specific training of a particular person in the tools and technique of a particular vocation by which he is to make a living.

The vocationists have broken down the rigid rules of school attendance, found new uses for public school funds, developed new types of schools, and inspired a new grouping of the years of school life that promises to change the whole classification and to give them new aims and new names all the way from the elementary to the professional school. Many can recall the recent day when the child who could not come to school all of the time was suspended for irregular attendance and could not come at all. Vocational education has reversed that and has created a school especially for him; the theory of part work and part school—a theory proved out with impressive results by the University of Cincinnati and by Antioch College—has been adapted and adopted by secondary schools; and the part-time secondary school, beginning at the end of the sixth year, is established as an essential factor in school organization.

Part-time schools are given names according to their specific functions: the "coöperative" school, in which sympathetic employers give opportunities to the students, and, whenever it is possible, such that they may experiment in the lines of their chosen vocations; the "continuation" school, for instruction to all not in the regular grades who wish to increase their knowledge and skill along special lines, and providing especially for those who have quit school before reaching the age limits or attainments required by compulsory attendance laws; the "trade" school, designed for apprenticeship; and the "night" school, available to adults of all ages as well as to youths who are trying to renew and patch up their mental equipments.

Getting jobs for children, or "placement" as it is called, finishes the machinery of the vocational scheme. The placement bureau is the outcome of the effort to find a solution for truancy among boys of fourteen or more who, having no guidance or assistance in getting employment, landed in crime and jail. Private individuals interested in this problem in Chicago in 1911 (and about the same time in Cincinnati, and before that in Boston) employed a leader to study conditions. He organized a placement bureau that four years later was taken over by the City Board of Education.

Its work was greatly advanced and enlarged by the enactment of compulsory school attendance laws, which required attendance at school until sixteen years of age and now in some states until eighteen, set a minimum of attainment of scholarship, rounded up and herded in the children who filled up the part-time and continuation schools, and forbade any employer to engage a child who did

EXPENSIVE EQUIPMENT IN A HIGH SCHOOL MACHINE SHOP
The fad of vocational education, says the author, has neither produced results nor justified the heavy burden it places on taxpayers.

not hold a certificate stating that he was physically able for the work and had met the school requirements. In Chicago 12,000 children were under such certification last year. When a child quits one job, the employer returns his certificate to the bureau, and the child must have another one issued before he can secure another job. Under this checking system the number of children under sixteen taken on by employers in Chicago has been reduced from 6,000 to 2,000 per year. This is benevolent service that has saved the day for many a youth and his dependents. But it is a salvage service and not the main works of the educational plant.

The old term, *in loco parentis*, had but one meaning a quarter of a century ago and that was defined in law that gave the teacher the powers of the parent in governing and disciplining the child while he was under the teacher's care—this, and nothing more. The assumption by the public schools of paternalism in such intimate and important matters as directing the choice of life work based upon intelligence tests set up by the schools, directing the choice of trades and business, placement in a job, the follow-up in the job, dealing directly with the employer of the child—all this, which is the distinctive field of vocational education, is a new function for the school or any other agency of government to assume; it marks a new era in both education and government in America.

But is this educational gun hitting the mark? Is the regular program of guidance in secondary schools not only confused in theory but ineffective in practice? It was the chief contention of those who introduced the régime of manual training that these innovations would interest boys who have no inclinations for academic studies and would tend to hold them in the school. Still broader claims for such results were made for the complete vocational program because of its wider scope, more practical contact with real life, and the exit of its product direct into industry. Has it done any or all of these things? What is the extent of the trend in secondary schools from the old-time studies to the vocational curriculum? How powerful a magnet are these departments to draw students from other departments to them?

Comparative figures tell little because of the enormous increases in school attendance and new classifications, but observation and opinion, as I have found it, may be generalized in such statements as the following, made by the head of vocational education in a city where it is being given full trial: "The departments and courses that you have enumerated have not proved to be such an attraction or such a magnet. For instance, one of our high schools is as finely equipped for all this work as any in the country; in making a study of it recently, I saw fine new shops equipped with lathes sufficient for forty students, but there were only three boys working in them; fine printing shops, but only three girls and two boys working in them; the girls are not filling up the departments of domestic arts and sciences. In fact, many of these courses with elaborate equipments would have few students in them if they were not required courses."

I found a magnificent high school in a city of 100,000 in the center of an agricultural district, where the agricultural interests by far exceed all other interests, in which the whole course in agriculture set up several years ago under the Smith-Hughes Act was abandoned this year, and the teacher, a graduate of the State Agricultural College, was dismissed, after three years of effort, because there were not enough pupils who applied for the courses to sustain the department.

Do the returns in educational values secured by thus forcing the issue justify the large *per capita* cost in vocational training departments? You can place forty pupils in a room with a teacher of mathematics, history, language, or civics, and she can teach them all; whereas twenty students in a shop is the maximum for one teacher, and from twelve to fifteen is the better group. A recitation room is equipped with simple desks that last a lifetime; a shop must be equipped with supplies and expensive machines that time soon makes worthless; for to teach the *tools* of a trade is the first essential in teaching the trade, and these tools must be up to date. All this runs the *per capita* cost of vocational training departments far beyond that of other departments. Can a full régime of vocational education as regular equipment of all secondary schools be sustained? Will the vocational school live upon local taxation as other schools do, should Federal aid be withdrawn? Will it live on its merits when, to keep it alive, vocational training must be made required work in order to have the students take it?

In one questionnaire submitted to students whom I had addressed, the following questions were embraced:

> Have you chosen the line you will follow after your education is completed?
>
> If not, what are your inclinations? If so, what considerations led you to the choice?
>
> What aid, if any, have you had from the high school in trying to make a choice of your life work?
>
> What do you think the high school should do or could do to assist students in making a choice of life work?

Answers to these questions were given in writing by 10,000 seniors. If you will not grant that seniors who are ready to be graduated are competent to estimate the aid they have received from the school in the choice of life work, you destroy every basis for guidance. But if you grant that they are competent, you must take these answers at their face value on the principle that the test of the pudding is in the eating.

In a high school for girls, with full course in guidance, of 208 seniors, 147 said they had chosen their life work and 61 had not; of the latter, 47 named their inclinations and the remainder stated they had none; of the 147 who had chosen their life work, 116 gave the considerations that led them to the choice, but 137 of them stated, many of them with emphasis, that they had received no aid from high school in making their choices. In another high school in another city there were 200 seniors, of whom 108 were girls and 92 were boys. Of these, 54 girls, or exactly one half, and 56 boys, or 60 per cent., stated that they had received no aid whatever from the school in the choice of their life work.

These cases represent the general results derived from careful tabulation of all the answers received from schools where the full régime of guidance is in operation, where the failure may lie both in the idea of guidance and in the quality of the work done. It is apparent that taking intelligence tests, filling out blanks, talking a few minutes in class or even privately with teachers about their studies—what courses they will take, what schools they will enter—is not considered by the students as talking upon their life work, or directing it.

The verdict upon the value of guidance from the standpoint of the students who have had four years of it is found in their answers to the question: "What do you think the high school should do or could do to assist students in making a choice of life work?" From groups of seniors numbering from 200 to 400 each, taken from widely separated cities, there came constructive suggestions numbering from thirty to forty per group, and they are almost identical from all groups. These fall into three classifications:

First, on courses of study: the school should have more flexibility in the choice of subjects; should offer more of the practical subjects; should have fewer compulsory courses in purely academic subjects; the study of vocations should come in the senior year instead of earlier.

Second, on the attitude of school and teacher toward the pupil: the school should discover the aptitudes of the pupils and adapt the courses to these; there should be more sympathetic contacts between teacher and pupils; teachers should be more sympathetic with the backward pupils; every boy and girl ought to have some one in the school who would take him *seriously* into his confidence; vocation teachers should have more impressive personalities; teachers need to know their subjects better to interest the pupils in them; the teachers should not use methods that prejudice pupils against the subjects they teach.

Third, on choice of life work: the school should not influence the choice; it should not assist in the choice; it can help but little, if any; it is already doing all it should try to do; every student must find it himself; it is the personal business of the student and his parents.

These facts indicate that the normal adolescent may have an interest in getting a temporary job to meet a temporary need, and an academic interest in studying about a myriad occupations, just as he has in studying about a myriad of other things that are new to him; but he seems to have little inclination to choose his life work. Of 54,000 students, only 40 per cent. state that they have talked to their parents upon the subject and only 5 per cent. to their teachers. That serious depth of mind that turns to life work does not come to the surface of the student's consciousness until after sixteen years of age; and even then, unless he is driven by circumstances, he has no stomach for that task. Except in cases of extraordinary gift of genius that points him a clear way, he is likely to wait long and to change his course many times.

Such conclusions are established by the results in vocational education at Antioch College, which has taken up the subject with balanced objectives and superlative care and patience. There are few who go to Antioch except those who have already chosen a vocation or have strong leanings toward one. Yet Antioch says that, after the careful experiences of these students in coöperative courses during six years, "three fourths of them change the choices they had made when entering because their earlier choices lacked the necessary basis of judgment and experience." That being true, the question may well be raised against pressing hard upon the subject in the high school, particularly during the tender years of the junior high school, where mistakes in "assorting and steering" children may be irreparable.

But the movement has developed one institution—the trade school—to which these considerations do not apply. When I asked W. S. Kienholz, head of Vocational Education of the Public Schools of Los Angeles, the question, "What is the trade school?" he answered, "Come and see," and took me to the "Frank Wiggins," the latest development of its type. It is housed in a new $1,500,000 eleven-story building, in architecture resembling an office building, and opened its doors on April 28, 1927. It was developed from the seed planted by Mrs. Kienholz in 1918, to provide a means of livelihood for the wives of soldiers who were killed or incapacitated in the war, when she established a school of power sewing and garment making. Now it offers training in ten distinct lines and seventy vocations.

When Mr. Kienholz drove his car into the automobile repairing department of the school, I asked him four questions: "What do you do here? Who come here? How long do they stay? Where do they go after they leave?" The answers to these questions give a new definition to school and create a new concept in free education. For this place forgets and ignores all of the old school eliminators—entrance requirements, age limits, time of attendance, aims of work, and completion of courses. These students are not there for languages, science, or mathematics. They are there to get working assets to exchange for a living. It is practically a school without books. Its major idea is apprenticeship, for when a student walks from its doors direct to an employer with a card stating that he is able to make good in the job he is seeking, both school and employer know that he is ready to do so. They go from this school directly into industry, which absorbs their full product.

I saw there boys and girls from sixteen to twenty and on up to men and women of forty-five, all getting ready to make a living in some employment. These were, or once had been, children who had dropped out of the seventh grade, or were flunked out somewhere farther along the line, or had failed to cash in on their education and enterprise. They had discovered in the jostle of workers that they needed to learn some definite way to make a living and had entered trade preparatory courses; or they had found in the hard world of competition that if they had more skill in their trades they could get more work and higher pay and were taking the trade extension courses at night.

Among them were one-time college students and graduates, thirty years old and up to fifty, who had found that their percentages in academic studies had no cash value in exchange for clothing and the needs of their children; gray-haired women working in power sewing rooms to learn a trade—of 531 women in this department last year there were 16 college graduates and 17 others who had spent from one to three years in schools beyond the high school.

"The finest reward for our work," said Dr. Kienholz, "is the happiness of those who here for the first time acquire a way to make a living, people who have never had a victory. They had no victories with what they learned at school, no victories in the mastery of anything that puts foundations under men; so that when they go from here and get definite employment and sure pay, it is the first victory of their lives, and the joy of it transforms them; to see their joy after they have lost their fear is the best reward we get out of our work." From six weeks to two years are required to produce such results; last year 10,000 applicants knocked at the doors of their day school.

Until ten years ago, the educational system of the United States, whatever its shortcomings, was functioning uniformly and smoothly. There were eight years in the elementary grades, four years of secondary school, and four years in college or university, with such mortality in attendance along the way that of 100 pupils in the fifth grade, 13 reached the fourth year of high school and 2 the fourth year of the college. Students were in demand; many of the private institutions of college grade had agents in the field soliciting for them, and state institutions had plenty of room for more. And it is well within the memory of many teachers still in the schools when high schools in small communities were few, with two-year or three-year courses, and whoever attended one felt himself an aristocrat and wore a high hat. A few of these went to college, and when one came home with a diploma he belonged to the intellectual royalty.

All this is now in the discard. Education has been democratized. In 1915, college enrollment was 303,000; in 1924, it was 664,000—a net gain of nearly 120 per cent. In 1917, high school enrollment was 1,600,000; in 1927, it was more than 4,000,000, exclusive of the junior high enrollment—a clear gain of more than 150 per cent.

For the first time in our history the universities have been flunking out without mercy and turning back the increasing thousands. Spontaneously, two new institutions have appeared: One, the junior college, to take care of the lower half of university work, an institution as necessary and as sure to be a part of all local educational outfits ten years hence as the four-year high school was twenty years ago. There are more than 300 of them now, some of them already developing four-year courses. The other, the municipal university sustained by general tax upon the city, as conceived by Cincinnati a generation ago, completes the full equipment for education of the up-to-date city.

Now enters vocational education to complicate these changes in objective and in redivision of school years, resulting in the present confusion in secondary education, which the Federal Bureau of Education pronounces "akin to chaos." Out of this confusion what will survive, what will issue, is problematical. The trade school and the placement bureau, which render special social services, will hold fast so long as society needs them. But unless the ideas of guidance can be worked out more practicably, unless there is more accord among educators on the relative values of cultural studies and vocational work, unless the latter can be supplied without large special subsidy and *per capita* cost, the cultural objectives of education in secondary schools will again emerge, and the dominance of this latest fad will be lost in the sum of great readjustments.

Billions for Pensions

What America Has Done for Her War Veterans

RICHARD BARRY

NEARLY half a million people (490,000, to be more exact—one cannot be absolutely exact because the number varies)—draw pay checks each month from the government because of military service in defense of the United States, or because of dependence on such persons. These concern only wars fought prior to 1917.

Searching through these rolls we find many curious cases. Of all, this one struck me most forcibly. It is the case of Francis E. Warren, who receives on the first of each month $65. In an office on the second floor of the Interior Department, where the Pension Bureau is housed, I saw this name one morning. That afternoon I sat in the gallery of the United States Senate and looked down upon a white-haired gentleman in evident health, the Senator from Wyoming, Francis E. Warren, Chairman of the Senate Committee on Military Affairs, father-in-law of General John J. Pershing.

The same? Yes. Francis E. Warren was born June 20, 1844. In 1862, at the age of eighteen, he enlisted in the 49th Massachusetts Infantry, served as private and noncommissioned officer, and was honorably discharged in 1865. Congress voted him the Medal of Honor for gallantry at Port Hudson, Louisiana, when Admiral Farragut attempted to pass up the Mississippi in March, 1863.

Senator Warren has never claimed any physical disability due to his military service. After the war he went west and became in due time a prominent and influential citizen of Wyoming, which state he has long represented in Congress, where to-day he is the only Civil War veteran. Financially he is thoroughly independent, for, in addition to the $10,000 per annum paid him by the government as a salary for his services as Senator, he possesses many millions in his personal estate.

Why should Senator Warren receive a pension? The answer is analogous to one made by President Coolidge to the Director of the Budget recently during an economy session. The story is one I heard in Washington and may or may not be true. In any event, it ought to be true. The Director of the Budget remarked, "We shall begin our cutting at the top. Mr. President, cannot you pare down somewhat that annual allowance of $25,000 for the maintenance expense of the White House?"

After due cogitation, the cautious executive from Vermont replied, "No, I am but a temporary occupant of the Executive Mansion. We must consider my successors and the dignity of their office. It might embarrass them to establish this precedent."

In a similar spirit Senator Warren accepts $65 each month from the Treasury of the United States. Neglect or refusal to do so might embarrass other veterans, might tend to throw some shadow of doubt on the validity of the principle that has been behind the bulk of pension-giving since 1890.

This principle of the service pension is that it is bestowed, not for invalidism due to war, nor yet as a bonus for service, but as the endowment of a trust fund established by all the people to recompense veterans for investing some of their best years in the task of preserving a political entity, that would not be functioning today if they had not made that investment.

Senator Warren is as much entitled to that income, accumulated by him, though unknowingly, between his nineteenth and twenty-second years, as a soldier, as is John D. Rockefeller to whatever he gets from the sum he saved as a bookkeeper between his nineteenth and twenty-second years. Such is the theory of the service pension.

As a banker puts it: "The service pension means that the government has created for each veteran a lifetime estate of $15,600, whose principal he may not touch, but guaranteeing him the interest at 5 per cent., payable monthly. This in lieu of his youthful investment of time and strength, and his sacrifice of other opportunity."

Accepting this principle, Senator Warren is just as much entitled to the income from his governmental estate of $15,600, as he is to his salary as Senator or to any of his personal holdings. Not to claim it would be to impeach the principle.

Only a little more than half (256,000) of the pensioners are surviving soldiers. The others, 234,000, are widows, minor children, and dependent parents. Minor children are entitled to pensions under certain conditions.

Of the veterans the greater number are of the War with Spain. These increased 25,000 last year and are now 158,000. At the same time the Civil War veterans decreased 15,000 and in March, 1928, for the first time fell below 80,000. How much longer will there be veterans of the Civil War? The youngest of them is now more than eighty, and many are more than ninety. We may judge from the past, and we may add new calculations that did not enter before.

Judging by the past, we find that the last veteran of the Revolutionary War, Daniel F. Bakerman, died April 5, 1869, aged 109½ years, eighty-six years after the close of the war. Ninety years after the close of the War of 1812, Hiram Cronk, the last survivor of that war, died May 13, 1905, at the age of 105 years. It is now eighty years since the close of the War with Mexico, and we are paying pensions to five soldiers of that war.

If history only repeats itself it will be at least a quarter of a century before the last survivor of the Civil War will have responded to the final call. But there is every reason to believe that this period will be considerably lengthened, perhaps doubled, or even further extended.

The actuary of a life insurance company said to me: "I expect that the first centenary of the firing on Fort Sumter, which will be celebrated in April, 1961, will have present a number of veterans of the Civil War. For these reasons: to begin with, their numbers greatly exceed those of other wars. Then, they lived their mature life in a period when life extension had vastly improved, when sanitary means of living were better understood, and when new inventions greatly extended the intellectual horizons of the common man, keeping them abreast of the times and alive with current interest. Better than all, the beneficence of the service pension came to them before they were decrepit to relieve them of poverty with its shame and worry, for it is only the past generation that has adopted for old soldiers the theory of deferred endowment, which is intellectually sustaining and spiritually ennobling. Because of these factors the veterans of the Civil War will doubtless break all records of longevity established by veterans of previous wars."

This may seem even more probable when it is known that pensions are to-day being paid to two women as surviving mothers of soldiers of the Civil War. Yet that war came to an end sixty-three years ago, and the youngest survivor who fought in it is more than eighty. These two women are Mrs. Samantha Rover Button, of West McHenry, Illinois, ninety-six years old, and Samantha Farrer, a colored woman living at Athens, Alabama, who was born a slave, does not know her age, but is probably more than one hundred.

It seems strange that nearly half the nation's pensioners are women, although two were placed on the rolls because of service as soldiers while masquerading as men. Except for these and the few mothers and minor children enrolled, all are receiving pensions as widows.

Pension frauds have been practiced in the past, but probably none has ever been so imminent constantly as the one that might be perpetrated by a designing young woman in marrying an elderly veteran to

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get the pension that would accrue to her as his widow on his death. Fifteen and twenty years ago every old soldiers' home was infested by these harpies. On June 27, 1905, Congress passed a law declaring that no pension would be paid to Civil War widows whose marriages came after that date. In the case of Spanish War widows, the date of limitation as to marriage is September 1, 1922; for Indian War widows it is March 4, 1917. This has somewhat dampened the ardor of certain youngish women. A similar law had been passed concerning widows of veterans of the War of 1812 on March 9, 1878. Evidently this has been a perennial menace to the Pension Bureau.

However, *to-day* fourteen widows of soldiers who fought in the War of 1812 are drawing pensions. The list of their names, addresses, and dates of birth reveal that the oldest was born fifteen years after the war was over, and the youngest forty-seven years after the war, while they must have been, on the average, at least half a century younger than their husbands.

The last Revolutionary War widow died only twenty-two years ago. She was Esther S. Damon of Plymouth Union, Vermont, who died November 11, 1906, at the age of ninety-two.

It is not impossible that the government of the United States will be paying pensions to the widows of veterans of the Civil War in the twenty-first century. A girl of eighteen who married such a veteran during the first half of 1905 would have to live only into her hundred-and-thirteenth year to make that record.

While matrimony has been expensive to the Pension Bureau it has also occasionally been the means of saving good sums for the government. There are two cases that are responsible for nearly eight thousand dollars each, of saving.

The first is that of the mother, Mrs. Samantha Button, already noted. As the dependent mother of Clinton D. Rover, a private in the 8th Illinois Cavalry, who, at the age of sixteen, died of typhoid fever after four months' service, she was granted a pension of $8 a month on December 17, 1864. In 1870, the then Mrs. Rover married James Button. At once her pension terminated. This husband, her second, died in 1899, but she went until December 11, 1926, before again applying for a pension by virtue of her son lost sixty-two years before. This was granted, but if she had not married Mr. Button the government would have paid her an amount of more than $7,500 in the intervening years.

The other case is that of Mrs. Martha L. Tilton, of Sanford, Maine, widow of Alfred L. Tilton, of the 15th Massachusetts Infantry, who died in service in 1862. Awarded a pension in 1864, she drew it until 1870. Then she decided to remarry, though notified that doing so would cancel her claim on the government. She did marry, however, and her second husband lived until 1923. Two years later she reapplied for her pension, and the reinstatement was granted. She is now again on the rolls. The Pension Bureau figures that through her second marriage Mrs. Tilton saved Uncle Sam in fifty-three years $7,897.

Among the nearly eighty thousand Civil War veterans there are many, many cases of prolonged domestic felicity. These are not revealed until death requires that the widow come forward to substantiate her claim. The record for domestic fidelity known to the Bureau until two years ago was that of a veteran and his wife living in Oklahoma. They had been married and living together constantly, except for his military service, for seventy-three years.

Then Mrs. Lydia A. Hunt, of Green Harbor, Massachusetts, applied for a pension. After proper investigation it was granted, and she now holds the record for length of matrimonial life, as known to the Pension Bureau. Mrs. Hunt is the widow of Robert S. Hunt, who enlisted in the 23rd Massachusetts Infantry in October, 1861, and served until May, 1865. He died at the age of ninety-six, in 1924. It was proven that the couple had married on November 26, 1849, and lived together continuously until his death in Plymouth County, Massachusetts, with the sole interruption of his three and one half years' service in the Civil War. They were married seventy-four years, eight months, and thirteen days.

Widows who were married before or during the war are entitled to $50 a month. To state this more precisely, following the terms of the law: "Widows who were the wives of their soldier husbands during the period of their service in the Civil War are entitled to $50 a month." Those who married after the war and before June 27, 1905, are entitled to $30 a month. The law makes no distinction between those who have been loyal wives for many years, in cases nearly half a century, and those married comparatively recently.

Bearing in mind that perennial menace to the validity of the pensions—the youthful widow—the last Congress, in passing a bill raising the rate to widows married after the Civil War, inserted what would appear to be an effective clause, making it possible for only those "widows who have attained the age of seventy-five years" to receive the benefits of this latest pension increase, which is to lift it from $30 a month to $40 a month in this class.

President Coolidge signed this bill on May 23, 1928, thus tending to temper the severity of his previous reputation, for no President has been so cautious as Coolidge in increasing allowances to veterans and their widows. It is said to be due to his caution, exerted unofficially, that Congress inserted the "seventy-five-year-old clause," thus gaining his signature. Even with the "seventy-five year" restriction this latest beneficence from the government will increase the annual pension distribution about $20,000,000, or approximately a 10 per cent. raise on the $200,000,000 now being spent.

Much has been said against pensions. When the World War came so much feeling existed against them that a new device of so-called "insurance" was instituted, whereby it was believed that the pension "evil" would not follow that "modern" war. Yet to-day the Veterans Bureau in Washington (devoted wholly to World War affairs) is one of the conspicuous buildings in the capital, while the Pension Bureau is modestly housed on part of one floor of the Interior Department.

In the ten years that have elapsed since the World War nearly five billions have been paid out in gratuities (they are not called pensions, but awards) to survivors of the last conflict in which the United States participated. This nearly equals the whole sum paid out in about sixty-five years to veterans of the Civil War and their dependants, which totals now a sum between six and seven billions.

And World War veterans to-day are getting nearly three times as much in total distribution as Civil War veterans, the annual allotment for the former being $560,000,000, against $200,000,000 for the latter. And the Civil War distribution has long passed its peak, while that of the World War is only beginning to approach its high mark.

It was with knowledge of these facts that Mr. Coolidge (who has been less generous with pension bills than has any other President) said at Gettysburg on Memorial Day: "All the countries on earth in all their history, all put together, have not done as much for those who have fought in their behalf as our country alone has done in the past fifty years."

THE EIFFEL TOWER AT NIGHT

Citroen

And How He Americanized the French Motor Industry

JAMES C. YOUNG

STAND UPON the heights of Montmartre any clear night and look across the roof-tops of Paris, falling away a long two miles to the famous Eiffel Tower. All around lies the realm of mystery, the Montmartre of artists, poets, and Apaches. On the pinnacle of the hill, austere in its white marble, rises the Basilique du Sacré Cœur, finest of modern cathedrals.

Suddenly the darkness is riven by lightning, or what seems to be lightning, that strikes the distant tower. Instinctively the ear strains for sound of the crash, when the steel mass will lie in ruins. But no crash results, no peal of thunder follows. The lightning flash was merely the first phase of an illusion such as the eye never saw before. For a minute this lightning plays up and down the thousand-foot tower, visible 40 kilometres distant. Then the white electric bulbs give way to red, the tower is in flames that spring from the base, crawling upward in a red surge. When they reach the top and the tower looks ready to fall, a charred and twisted mass, the illusion takes another turn.

Slowly a fountain, achieved by white bulbs again, spurts at the bottom and drenches the flames above. This third phase of the illusion leaves an onlooker breathless, but he is now to see a shower of stars fall over the tower, stars in six colors, brilliant against the night. As they wink out one by one a deluge of comets follows them, chasing one another over the tower in magical fashion. A red patch forms at the top, grows larger, and resolves into a capital C 30 metres high. Next comes an I, succeeded by five more letters, spelling the name "Citroen." Two hundred thousand lamps are used in the full illumination.

Such is the world's greatest advertisement, for which the French Government receives a record revenue. Neither the government nor André Citroen will divulge the price, though both agree that it is as high as the tower. Post-war France, seeking revenue everywhere, could not resist the automobile maker's bid to convert a national monument into an amazing spectacle—for the wider renown of the Citroen car. Every visitor wants to see the tower, the tallest of structures, and since M. Citroen has decked it out in electrical illusions his name is one that no visitor ever will forget.

M. Citroen is perhaps the most interesting personality on the continent of Europe to-day. Certainly he is the foremost figure of the Old World in everything that pertains to the modern day. Americans know him best as the "Ford of France," a description fairly accurate, though M. Citroen has fame enough of his own without borrowing the luster of another name. But he has brought a vigor, a concentrated method to his business that Americans recognize with a sense of home. Any one familiar with European business will best appreciate the meaning of this vigor, since business in Europe still takes two hours off for lunch and does some other odd things.

If anybody had doubted that M. Citroen has imagination—which no one surely ever did—he proved it by sending a fleet of his cars across the Sahara Desert, mounted on caterpillar running gear. Thus the automobile conquered the shifting sands, opening new and farther horizons in motor transportation. Not satisfied with one achievement of this kind the genius of the French motor world started a second expedition of eight cars from Algeria through central Africa. That expedition was an epic, winding downward to the edge of Nigeria, thence by equatorial Africa to the Belgian Congo and British East Africa. Finally it divided into four groups that covered a broad territory, going south to Cape Town and joining up again in Madagascar.

What the first expedition had demonstrated the second proved conclusively: the motor car can go practically anywhere, if not on its own wheels, then by means of the crawling device developed during war days. One of the trans-desert cars now rests in the museum of the Invalides, that storehouse of French achievement. As for the Citroen enterprise, it is written high on the scroll of the motor world.

Sitting behind a flat-topped desk in this office on the Quai de Javel, M. Citroen has much in his bearing to suggest the American business man. Like many of his countrymen, he is slight of stature, with a quick, nervous manner that reflects rapid concentration and a lively play of mind. A caller finds the office door controlled by an American doorcheck at the top, to prevent slamming. An array of push buttons marks the motor man's desk. The click of typewriters and adding machines can be heard every time the door is opened. Beyond the offices lies the big motor plant, the nearest approach in Europe to mass production on the American plan.

The career of M. Citroen has been an eventful one. War brought him opportunity, and it is since the war that he has forged ahead so far in European industry. Born in Paris no longer ago than 1878, he saw considerable military service as a young man. Then, having a technical education, he turned to engineering activities and by 1908 had charge of an extensive automobile reorganization involving the *Société d'Automobiles Mors*. In 1912 he came to America, catching his first glimpse of the industrial world that was to influence his own future activities.

Then, 1914 brought war and the mobilization of M. Citroen as an officer of artillery. Plainly, he was too valuable a man for routine services. But it was M. Citroen himself who proposed to the Minister of War that he be allowed to begin the manufacture of shells on a broad scale. By January, 1915, the plan was under way. American machinery entered largely into his calculations. First he made 10,000 shrapnel shells a day, then 15,000, and then 20,000; and the production of heavy artillery shells followed in due order. Finally the plant employed 13,000 workers and made 55,000 shells a day. They were shipped to every Allied country and went far to win the ultimate victory. M. Citroen also took over organization of the government arsenal at Roanne, contributing largely of his technical skill wherever needed.

With the end of the war he shifted his activities once more to automobile manufacture. The new day was to bring the motor car into universal service. But it was no slight matter to lay aside war problems, convert plants, and begin virtually a new enterprise. In 1919 the Citroen organization was able to make only 30 cars a day—a figure that has since grown to 400. The beginning had to be made in the face of impressive difficulties. There was little or no market for cars, technical operations required much time and attention. Capital was scarce as well, and weary Europe uncertain where to turn.

But the Citroen enterprise prospered in one way and another. The man at its helm had already determined that mass production of motor cars offered the only means for Europe to compete with America. And could he be the first to engage in such production on the American plan, then he might well lay claim to a sizable share of the Continental trade. In 1923 M. Citroen came overseas on a trip that was to be epochal both for him and for the European motor world. It was on that trip that he learned about such things as doorchecks to keep doors from slamming. And even the most casual inspection of his plant would show that he was a close and careful observer while in America. Much of his mechanical equipment came from American workshops.

Step by step the Citroen plant has become the principal motor industry of the Old World. And step by step its sales organization has kept pace with manufacture. The company has three large and two smaller establishments in the environs of

Paris, the principal plant being on the Quai de Javel. Throughout this plant operations are carried on in the way made familiar by Ford. A conveyor system transplanted from Detroit makes it possible to manufacture automobiles *en grande série*, the French equivalent of mass production. Everywhere the touch of American efficiency can be seen. There is something heartening about the sight of American punch presses and such equipment in a far land. It works with a snap and decision pleasant to view.

Any engineer would feel his heart warmed by a view of the Citroen plant. Observation would show him that the plant works easily. All of its parts mesh well and seem in harmony with one another. The French worker is no less interesting than is the French plant. He has an offhand way of doing things that might strike the American eye as inefficient. But his manner is deceiving, for he has much skill in his fingers and no little knowledge under his hat. He drives a rivet carelessly, as an artist might drive it, but examination will show the rivet to be deep in its socket when he has completed the job.

ANDRÉ CITROEN

No experiment in the psychology of industry could be more interesting than this adaption of American ways to French temperament. M. Citroen operates on the basis of mass production, but it is a modified scale, having less of the iron rule and the immovable obstacle than we know in American industry. For instance, the French worker never would be contented to spend his life doing one job. He has something of the artist about him; above all, your Frenchman is a human individual. He dislikes doing the same thing twice in the same way. If his task is no more than tying up bundles he ties them differently.

Therefore mass production *à la Citroen* is considerably more humanized than mass production, American plan. The French worker, unlike his American fellow, changes about from one job to another as occasion offers. His superiors believe that such diversity makes him a better workman. Certainly this bit of variety keeps him more contented. He does not develop the "grouch" common to machine industry. Neither does he get the leaden, beaten look in his eye that can be seen in so many American plants. Instead, the French worker is generally cheerful. He takes pride in his work. He has an understanding of economy in materials and the use of tools that no American ever thought about. Take him by and large and he is a first class workman.

The Citroen plant has such innovations as time clocks. At first they were looked at askance. What did those clocks mean, with their little cards and that punching machine? Was the French workman to lose his liberty? Right there a superior kind of diplomacy made the French workman understand that these clocks were a measure of merit. If a man liked his job and wanted his company to prosper he was going to be on time in the morning, and the clocks would keep his company informed. It would know how to measure his merit. That made the thing different. Nowadays the Citroen worker gets to his lathe promptly because his pride is in it. And pride is the strongest motive in the French heart.

Wherever the eye turns in this world created by M. Citroen it finds much to satisfy. Blast furnaces, foundries, machine shops, body works—the whole operation is complete save for the manufacture of a few parts. Great cranes pick up vast weights as easily as they were ever picked up in America. The furnaces have the same roar when their red mouths are opened and the flames burst forth. Short, stocky men, bare to the waist, black-moustached and bright-eyed, pour the metal, tend the fires.

In the machine departments the conveyor system is promptly reminiscent of Detroit. Apparently it moves as fast, though without such evident strain to keep up by the men employed. But it is modern industry in one of its impressive phases. Citroen cars are assembled with the dispatch and thoroughness made famous by Ford. Yet there is always the French touch, the "something different" that marks the race. The man who drives the final stitch in the upholstery, or applies the last daub of paint, does it with the air of one who has accomplished something worth while. *Vive Citroen!*

This spirit of the nation and the plant extends to the distribution department. If we must employ the comparison once more, it also is conducted on the American principle. No other European organization quite equals the Citroen selling department. At present four assembly plants are operated, in London, Brussels, Cologne, and Milan. Warehouses and sales agencies extend all over northern Africa and Europe and well into the Orient. Many of these are direct agencies and each of them has the mark of the Citroen character.

Walk along the Unter den Linden in Berlin or the famous Piccadilly in London and the Citroen establishment soon greets the eye. The branch in one city might be transferred to the other and no one would be wiser. Both of them—all the Citroen branches—have a clean-cut, plate glass character more typical of Broadway than of Europe. The various cars stand upon the

ON VACATION AT DEAUVILLE

M. Citroen is riding in one of the low-platformed busses that he donated to the fashionable resort to carry bathers across the mud flats. These machines are similar to the caterpillar Citroens used in crossing the Sahara Desert.

floor inside, each neatly halted above its drip pan. The name on the window of every branch is painted in similar letters. The Citroen symbol stands forth prominently.

It is this distribution department that has made it possible for the Citroen organization to produce and sell 400 cars a day. That number may seem small compared to the 10,000 a day capacity production of Ford when running full time. But it is large for Europe, where the tradition of small plants and individual products still adheres. Also, it is well to remember that Europe lacks our buying power, or anything like our buying power. Only a man of "good position" can hope to own an automobile.

Another branch of the Citroen activities extends to taxicab companies in Paris, Marseilles, Lyons, and a half-dozen other cities of France. Here is a shrewd stroke of business, organizing the companies to buy the cabs that M. Citroen wishes to make. About every third cab in Paris has "Citroen" boldly painted upon the body. Its light cream color is as familiar on the boulevards as the yellow cabs of America—and much more attractive.

The personnel of this organization runs upward of 30,000 men, a figure apparently high for the daily production of 400 cars. And it must be admitted that the counterpart of American mass production is not geared so high. But the typical American plant producing 400 cars daily operates more largely as an assembly plant, while the Citroen organization produces almost everything that it uses. There also would seem to be more labor by hand, especially in the simpler operations.

Only personal acquaintance with Europe could make plain the extent of M. Citroen's innovation in French industry. The whole of Europe, and France in particular, is a world of traditions. The visitor need walk down but one block or through one village to see how this law of tradition endures. And the oldest tranditions of all involve working principles. Guild laws are still living customs if not practical statutes. The French worker has always been a strong individualist, given to doing things his own way and generally in the way of his fathers. Machinery has a place secondary to hand labor in French crafts, when such crafts in America are wholly—or almost wholly—turned over to machinery. The manufacture of shoes might be cited as an illustration.

Therefore, when M. Citroen introduced high-powered, high-geared machinery, along with a conveyor system and typical production methods of American plants, he engaged in an undertaking of the first order. Above all, he had to consider the psychology of his workers. One failure meant total failure. Once the workers' collective mind condemned his plans, he would have troubles indeed.

Without the war such an industrial revolution might have been impossible. But the war quickened efforts in France as they had not been quickened for half a century. The Citroen organization rose to a great effort in time of need. After the need that spirit was carried over to peacetime reconstruction. It has now flowered into the model organization of Europe, comparing well with the best in America, and adding not a little of its own to the general excellent result.

M. Citroen, at fifty, emerges as the first industrialist of Europe. Last year he sold more than half of all the motor cars marketed in France, and he has successfully invaded the English, German, and Italian fields. Even tariff walls have not kept down his competition. It is one of the odd aspects of things European that automobiles in France bear a 12 per cent. luxury tax, making the home price about as high as it is in England, plus tariff.

None of the German or English automobile makers are producing so many cars as M. Citroen or distributing them over so wide a field. His sharpest competition has come from American sources, but recent tariff adjustments are expected to favor the French producer on the whole. In any event, he may be depended upon stoutly to defend his hold on the markets. And since M. Citroen has shown more imagination than is granted to most men, it may be expected that he will have his own and original means of meeting competition.

Knights of the Air

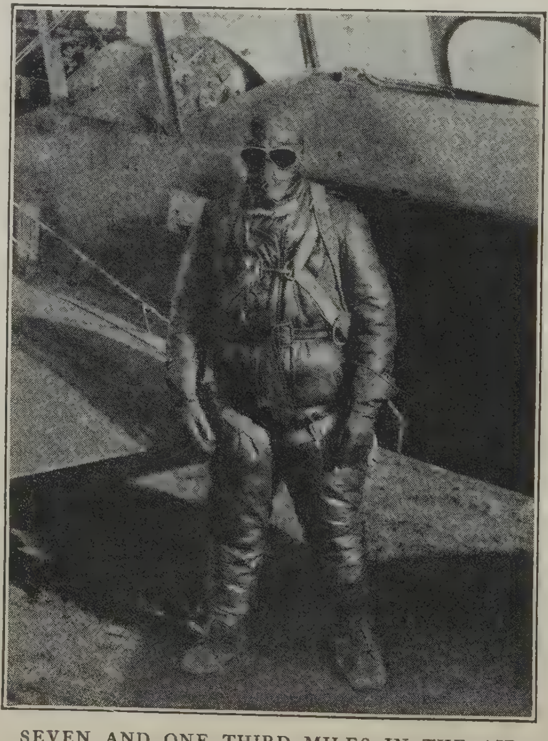
Significant Achievements Since the Armistice

LESTER J. MAITLAND

LIEUTENANT, ARMY AIR CORPS

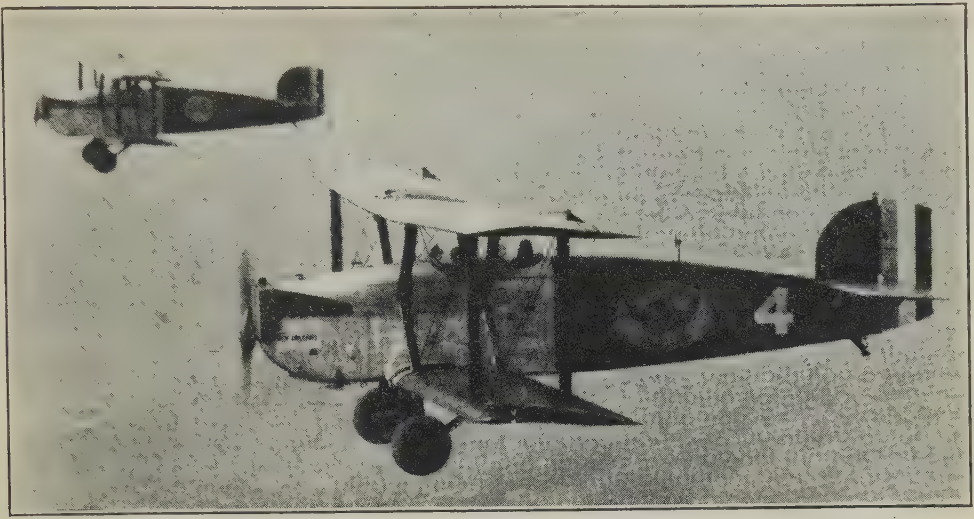
TWENTY-FIVE YEARS have passed since man's first successful flight. The quarter-century of American aviation that in 1928 lies behind us falls into five distinct cycles, each of which covers a period of five years. The first of these cycles begins with the initial flight of the Wright brothers in December, 1903, while the third comes to a close in November, 1918, when the signing of the armistice brings the World War to an end. The two remaining cycles, which lead us up to 1928, represent a ten-year period during which aviation has gone through two major phases of development—military and commercial—during which the airplane, usually against odds, has time after time demonstrated the superiority of speed over space.

No sooner had the war ended than the plane set out to prove that it was as valuable and as essential in peace as it had proved to be in war. But, as things turned out, it had a difficult row to hoe. After more than fifteen years of aviation, the American public was far from ready to accept the airplane as a vehicle that stood side by side with the railroad, the automobile, and other members of the transportation world. It was still *persona non grata* in commerce. There were no airports, no airways, no air maps, no air routes, and no air transportation lines to speak of. America, the land that gave aviation to the world, was still as far behind the times in civilian and commercial flying as it was before the war started.



SEVEN AND ONE THIRD MILES IN THE AIR
Lieutenant John A. Macready dressed for his record-breaking flight, during which he attained an altitude of 38,704 ft.

The public, too, was apathetic toward aviation. When it thought about airplanes at all it was as things in which romance and recklessness were component parts. The popular attitude toward aviation was virtually a renaissance of the spirit of the old exhibition days with the slightly encouraging difference that where, during the hectic years, the public was satisfied to stand on the ground and look, thousands were now willing to take a chance and fly. And, to tell the truth, most of those who flew in those early post-war days in al-



"THE GREATEST FLIGHT IN HISTORY"
The *New Orleans* and the *Chicago* were the only planes out of a total of four to complete the flight around the globe.

most any one of the hundreds of planes owned by barn storming gypsy pilots did take a chance. There were many accidents, many deaths. However, considering the equipment, it is really remarkable that the loss of life and limb was no greater than it was.

Gypsy flyers came into existence during the spring and summer of 1919 and kept multiplying so rapidly that it seemed as though they would crash into one another —which many of them actually did. They came from the ranks of pilots who had been discharged from the military services in the course of demobilization, or they were men who had attended Army and Navy training schools, where they had either qualified as pilots or had been washed out because they failed to reach the standards a flyer had to attain before he could get his wings. But in those days a pilot's license was not required, with the result that a pilot was as good as he talked, and some of those gypsies were first-class orators.

The government, which only a few months earlier had labored day and night to obtain as many airplanes as it could, suddenly found itself with more ships than it could possibly use. The outcome was that in no time at all the market was flooded with training planes and other ex-military aircraft, which were good enough when they left government hangars but not quite so dependable after they had been in the hands of gypsy flyers for a time. Gypsies had no need of hangars because they were always on the go, and I regret to say that most of them did not have the respect for their ships that every pilot is supposed to have. The result was that sun, rain, and storm did their work on fabric and structure. In countless instances, these elements served as advance agents of death.

The gypsy pilot, like his valiant forerunner the exhibition flyer, was picturesque. But when that is said all is said, because, as a class, he is responsible for the tardy development of American air-mindedness. He flew when he was able to and earned his "five dollars for five minutes" whenever he found passengers willing to go up. It did not matter if his motor was skipping, his struts shimmied, or his rudder was loose. He flew his "crate" as long as it would hang together, with supreme disdain for consequences. At first he did a land-office business. His flying field was any handy cow pasture or town lot, his office was under his helmet, and his repair kit contained a hammer, some hay-wire, a screw-driver and a wrench. He flew, lived, and moved at a reckless and restless pace—a happy-go-

KELLY AND MACREADY

On May 2–3, 1923, these men completed the first non-stop, coast-to-coast flight. This feat hastened the day of transoceanic flights.

lucky adventurous soul who took things as he found them. A fellow who, in his way and day, was a Knight of the Air, who made many a girlish heart beat a little faster and many a boy wish that he, too, could live the life of a gypsy pilot.

But as time went on, as scores of pilots and passengers perished, as gypsy planes turned out to be "flaming coffins" and "suicide planes," the public began to look upon pilots with distrust and upon airplanes with suspicion. The gypsy pilot not only destroyed his own business but also created fear of airplanes in the public mind; planted a seed of misunderstanding of the real promises of aviation that grew so rapidly that an extensive campaign of education was required to restore public faith in the airplane and to win the active public coöperation without which commercial aviation can neither survive nor make headway.

It would be grossly unfair to say that all the pilots of the early post-war period belonged to the gypsy species. There were any number of men who had, or who obtained, capital that enabled them to establish permanent flying fields, where equipment was properly housed and cared for by expert mechanics. These men, even though they represented a microscopic minority among commercial flyers of their day, really laid the foundation upon which our present magnificent structure of commercial aviation has been built.

Like all pioneers, they had to take the bitter with the sweet, and most of them fought a terrific up-hill battle for existence. They suffered under the handicaps imposed upon commercial aviation by their more reckless and irresponsible fellow flyers, and for many years some of them hung on with a tenacity seldom found in other branches of business. They knew that some day aviation would come into its own; and it must be said of them that in the efforts to bring that day about they put their shoulders to the wheel with unselfish zeal and unflagging heart.

The job of educating the public to the true value of aviation and of demonstrating in the most practical manner that the airplane is not only an important branch of the defenses of the country but also a valuable vehicle of commerce, fell largely upon the Army and Navy Air Services, because they were the only organizations that had the planes, pilots, and research equipment without which the road to further aviation progress could not be charted or the highways of the air be built. The Navy was first to fly heavier-than-air machines across the Atlantic and first to attempt to bridge the distance between this country and Hawaii. The Army was first to circumnavigate the globe by plane, first to fly from coast to coast within the span of a single day, and first to link by air the nations of the western hemisphere.

The underlying purposes of the various flight projects undertaken by our military services from time to time since the Navy flight across the Atlantic in 1919 have been identical in two major respects: *First*, to test out endurance of motors, airworthiness of planes, and accuracy of navigation equipment. *Second*, to demonstrate to the people of this country that airplanes are as reliable as are other means of transportation and that the development of airports and public support of commercial airlines will bring within reach of every one the time and trouble saving benefits that the airplane offers to civilization.

The almost uniform success of the various military flying missions reached a startling climax last year when a series of long-distance flights made by American civilian and military airmen held the world in breathless attention. Even as 1903 marks the year in which man conquered the air, so 1927 will always have historic value because it is the milestone on the road of aviation progress that signifies an important turning point—the turn in the road that leads to flying Pullmans and freight cars on wings. But before that last turn was made much history was written in the sky by American airmen whose aërial explorations over land and sea, in the frozen north and under blazing tropical sun, are not only important chapters in the history of flight but add a colorful appendix to the chronicle of men who sought the path of adventure and counted not the cost.

The first of these explorers of the air set their course across the Atlantic Ocean from Newfoundland on May 16, 1919, when three Navy flying boats—the *NC-1*, *3*, and *4* took off for Portugal and England by way of the Azores. Only one of the planes completed its journey—the *NC-4*, commanded by Lieutenant-Commander A. C. Read. The other two craft met with the troubles and misfortunes that altogether too often lie in wait for those who fly across the sea.

The *NC-3* was the flagship of the expedition. The men aboard it, commanded by Commander John H. Towers, were the first to feel the predicament of airmen lost at sea in a raging storm with only the thin hull of a flying boat between themselves and Davy Jones's locker. All went well with the *NC-3* as it took off from Trepassey, which since has become an important hopping-off place in transatlantic flying. The craft made good time and had smooth sailing until it neared the Azores, when dirty weather set in. For five hours Commander Towers and his men fought their way through rain and fog. Finally, within less than fifty miles of land, they thought they would find refuge on the surface of the sea—a move that almost proved their undoing. The waves ran high, and the force of their blows soon wrecked the plane so completely that it could not be flown. The hull was damaged and the wings were torn.

Night came. Hour after hour the craft was tossed like a shell on the sea with only the froth on the towering wave crests glinting through the darkness. Any minute might be the last for these men who had the courage to be among the first to fly across the Atlantic. Throughout the

FIRST TO DO THE OUTSIDE LOOP

Lieutenant J. H. Doolittle won the 1925 Schneider Cup Race and at another time flew hundreds of miles in South America although crippled by broken ankles.

night came the consoling signals from ships engaged in a frantic search for them —a search that was as futile as the *NC-3's* attempts to send a message from its own wireless, which could receive but not send. When the sun rose the *NC-3* was still afloat and battling for life.

For fifty-two hours, without food and with only the water they could drain out of the radiators to drink, Commander Towers and his men fought and finally conquered the elements. It was a grim battle, with all the odds against them. So much greater, therefore, their victory when the *NC-3*, a crippled thing, came crawling into the Harbor of Ponta Delgada. Its crew was intact, but the plane was so damaged that it could not continue the flight.

Meanwhile, the *NC-1* had been put out of the running when it sank at sea after its crew, commanded by Lieutenant-Commander P. N. L. Bellinger, had vainly tried to save it. The *NC-1*, like its sister ship, had been forced down by bad weather and damaged so severely by the pounding seas that it could not take off again. For five hours the plane, with motors running wide open, headed toward land in a futile but noble effort to bring it safely ashore. The *NC-1* was finally sighted by the steamship *Ionia*, which took Bellinger and his men aboard. An attempt to tow the *NC-1* to port proved of no avail. The towing line broke, and the plane, drifting helpless on the sea, was soon pounded to pieces and sank.

Although they were not Americans but English, the flight by Captain John Alcock and Lieutenant Arthur Brown in June, 1919, across the Atlantic has a place in these pages—not because it was the first successful non-stop flight across the Atlantic following Hawker and Grieve's near-successful try but because its start from this continent makes it part of the aërial history of America. Alcock and Brown flew from St. Johns, Newfoundland, to Clifden, Ireland, a distance of 1,936 miles, in 15 hours and 57 minutes. They might have gone on to London had not their ship been so seriously damaged in landing that it was beyond repair.

The two transatlantic non-stop flyers were in trouble almost from the very start. They flew in fog virtually all the way across the Atlantic, and the plane looped, rolled, and spun. It was a brave flight and well performed.

Four years have passed since the Army's round-the-world flight was brought to a successful conclusion in 1924. Many inspiring chapters have been written in aviation since, but I doubt if one will ever be penned that equals the first and, so far, the only flight around the globe. Undertaken with equipment that to-day would be decidedly old-fashioned, this venture, in my opinion, stands out as the greatest flight in history, and its members must be regarded as among the finest and most formidable explorers of the air.

In considering the round-the-world flight, credit must be given Major-General Mason M. Patrick, now retired, who, as Chief of Air Corps, supported and encouraged flight projects that have enhanced the prestige of American aviation and demonstrated how easily the airplane may be made a vehicle for commerce, at a time when practical moral support was needed by those who strove to awaken the air-consciousness of America. At a time of life when most other men feel they have earned rest in retirement, General Patrick undertook the greatest task of his career—the building up of the Army's air defenses. His genius for organization produced results in the form of increased morale and heightened efficiency in the air branch of the Army, and to show his men that he was with them heart and soul, General Patrick learned to fly at the age of sixty.

He believed in the airplane as a powerful force in battle but recognized it also as a mighty factor in commerce. His aim was to increase the tactical value of planes in war and to demonstrate their practical value in peace. In line with this policy, which had a tremendous effect in restoring public confidence in aviation, General Patrick encouraged projects that in reality were practical talks on aviation, and the world was his lecture room. Among flights encouraged by General Patrick were various altitude and endurance tests, the first coast to coast non-stop flight, Maughan's dawn-to-dusk race against the setting sun, the Pan-American "good will" mission, the Hawaiian and the round-the-world flights. Of these missions, the round-the-world flight, in my opinion, towers head and shoulders above all others.

The round-the-world expedition left Seattle on April 6, 1924, and returned to the field from which it took off on September 28, 1924. During the interim it had flown a zigzag course of 27,553 miles over arctic snows, oceans, deserts, and jungles, in a total flying time of 371 hours and 11 minutes. Four planes started, but only two of them made the complete trip. The *Seattle*, flagship of Major Frederick M. Martin, crashed on a mountainside on one of the earliest legs of the flight, while the *Boston*, piloted by Lieutenant Leigh Wade, sank while being towed, after a forced landing in the North Atlantic. The two remaining ships—the *New Orleans* and the *Chicago*—returned to the starting point.

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LIEUTENANT-COMMANDER A. C. READ

His plane, the *NC-4*, alone completed the transatlantic flight begun from Newfoundland, May 16, 1919.

On April 15th, while flying in the frozen fastnesses of Alaska, delays occurred that finally led to the elimination of Major Martin and the *Seattle*. Between Seward and Chignik, Alaska, Major Martin's engine went out of commission; but he was able to land in a sheltered cove, where he was found the next day by a destroyer sent out to seek him. Examination disclosed that a new motor was needed. After a wait of ten days it arrived and was installed. There were further delays, due to bad weather, until April 25th, when Major Martin, with Sergeant Harvey, his mechanic, took off for Chignik. More bad weather. More delays. Finally, on April 30th, Major Martin received word that the weather permitted a hop to Dutch Harbor in the Aleutian Islands, where the three other planes were waiting for him.

But Major Martin never reached Dutch Harbor. Snow, followed by fog, lured him off his course. Major Martin, peering through the mist that surrounded the plane and fighting to keep the ship on an even keel, suddenly saw a mountain come rushing toward him in the fog. He could not climb. There was no time to turn. It was only a matter of seconds, and each second counted a lifetime. Cutting his switch and nosing his ship up, Major Martin took the only course there was to take—pancaked his plane on the mountainside, thus saving Sergeant Harvey's life and his own.

Failing to reach Dutch Harbor, the *Seattle* was once more reported missing. Search was made on land and sea, but no signs were found that pointed to the fate of its crew. Major Martin and Harvey were believed dead when, after ten days of struggling through the wilderness, they reached Moller Bay. For two days they had been held captive under their wrecked plane by fog so thick that neither dared leave the shelter the wreck afforded them. On the third day they began their hunt for a trail that led back to civilization. For more than a week they were lost in the wilderness, and the only protection they found was a deserted cabin. Their lives endangered by heavy snows, for two days they remained in shelter there.

Meanwhile the *Chicago*, the *New Orleans*, and the *Boston* were ordered to proceed from Dutch Harbor to Japan. Lieutenant Lowell H. Smith was named flight commander and proved himself an exceptionally able leader. Lieutenant Erik H. Nelson demonstrated his skill as engineering officer. Rain or shine, foul flying or fair, the six flyers stood together as friends and flying mates. Those who have been on extended flights know that there is little rest for pilots who fly on fixed schedules and who, as they go along, must not only be efficient in the air but care for their planes after they land, try to keep awake at public receptions given in their honor, and, up at the crack of dawn next day, be ready to start all over again. It is one of the hardest grinds in the world and tests the temperament and grit of flying men almost to the breaking point. Under such circumstances a man with the strong character and power of leadership of Smith is worth his weight in gold.

One of the most amusing episodes of the flight was when Arnold was made official speech writer. At the outset the members of the cruise decided that they would make no speeches at formal dinners. Arnold thought this policy of silence might leave a queer impression; so one night, at a dinner in Japan, he stood up, made a few nice remarks, sat down, and won quite a harvest of applause.

At the next stop Arnold is ready to repeat his little speech when, lo and behold, Smith is introduced and delivers it for him. Not daunted, Arnold thinks fast and well. When his turn to be introduced comes around Arnold is ready with a few appropriate remarks. More applause. A new hop, a new stop, a new reception—Smith delivers Arnold's old speech, and Arnold is ready to repeat the one that replaced it when Nelson gets up and, with his marked and delightful Swedish accent, delivers Arnold's second address.

This was too much for Arnold. He remonstrated and cajoled but got nowhere. He pointed out that he could not copyright his remarks in all languages, including the Scandinavian, hence he wanted a showdown. His companions admitted there was some justification for his attitude and agreed that if he wanted to he could write a speech that none of them would touch, provided—and here was the Ethiopian among the fagots—provided he would write a speech for each of them. Arnold, after thinking things over, agreed that he would. From that time on there were no infringements.

From the Far East westward toward Europe and through the countries of the Old World flew the three planes, almost on schedule and without any mishaps. Fortune favored them until they were at Kirkwall, in the Orkney Islands, ready to proceed to Iceland. Bad weather delayed the take-off, but early in August the weather looked auspicious, and the three ships flew northward. They had been out only a few minutes when a heavy fog enveloped them. The planes were separated. The *Chicago* and the *Boston* returned to Kirkwall, but no word was received from Nelson and Harding in the *New Orleans* until several hours later, when a telegraphic message announced that they had landed in Iceland.

That single flight of the *New Orleans* was spectacular and came near being its last. Nelson and Harding flew in fog as thick as pea soup. They could not see, did not know whether they were flying up or down, forward or in circles. Once they went into a tail spin that did not end until they were immediately above the water with just room enough between them and the sea to straighten out. Iceland looked like Omar's dream of Paradise to the two flyers when they landed.

A few days later the *Chicago* and the *Boston* took off for Iceland. Midway between the Orkneys and the Faroe Islands the *Boston* developed engine trouble and was forced to descend in a heavy sea. After making sure no harm was done to the *Boston* or its crew, Smith, with gun full open, pushed the *Chicago* for all it could give until he reached Sydero Island, where there is a wireless station. He dropped a note giving the *Boston's* position, with the request that the message be broadcast to the United States warships that patrolled the route. Smith dropped a second message to the United States destroyer *Billingsby* and, after making sure this message was received, continued to Iceland. Meanwhile, the *Boston* had been taken in tow by a passing trawler, which was located by the cruiser *Richmond.* Wade and Ogden were taken aboard. Unsuccessful efforts to hoist the plane aboard the *Richmond* ended in wrecking the craft to such an extent that it eventually sank.

Reduced now to only two ships and four men, the round-the-world flight was at Reykjavik, ready to start on the most dangerous lap of all—the trip from Iceland to Greenland. The original schedule called for a 500-mile hop from Iceland to Ivigut, but owing to heavy ice at this point, Frederiksdal was selected in its place—a distance of more than eight hundred miles from Reykjavik. In Iceland the American flyers met Locatelli, the Italian airman who was attempting a flight to America. He asked if he might follow the two round-the-world ships and was given ready permission. Locatelli never reached his objective. Halfway out he was forced down by fog and was located three nights later by the *Richmond.*

The *Chicago* and the *New Orleans* took off for Frederiksdal on August 21st. The ships roared over arctic regions where planes had never flown before —100—200—400—500 miles. The sky was clear, the air quiet; the sun shone brightly. All was lovely when once more fog—the arch enemy of aviation—took the ships in his clammy grasp. More than three hundred miles to go. And among the dangers that lurked in the fog was the ever-present peril of icebergs. In order to keep on even keel the planes would now and then fly close to the surface of the sea. Several times they pulled up sharp just in time to escape crashing into a mountain of ice. At last, to escape this menace they climbed high above the fog.

Smith, who was flying about half an hour ahead of Nelson, at last believed that he was above his destination and that somewhere beneath the fog lay Frederiksdal. He was in a serious predicament. If he kept going he would go beyond his objective. If he went down through the fog he ran the risk of crashing on either sea or land. He had no way of knowing how close the fog hung to the ground or the surface of the sea.

At this very moment, when Smith was wondering what to do next, the fog beneath him rolled away, leaving a large hole, and through it Smith saw a ship sending out smoke signals. Near by was Frederiksdal. Smith slipped through the heaven-sent opening in the fog and landed. Half an hour later the roar of Nelson's plane was heard high in the air. Once more the fog rolled away, and Nelson got down. To this hour no one has found any explanation of how the fog parted twice within an hour—each time to let an airplane through. From Frederiksdal it was smooth sailing to Labrador and Nova Scotia, where Wade and Ogden met them in a new *Boston.* From the shores of the Atlantic across the country to the West Coast, the rest of the flight was a triumphal procession that came to a rousing climax in Seattle.

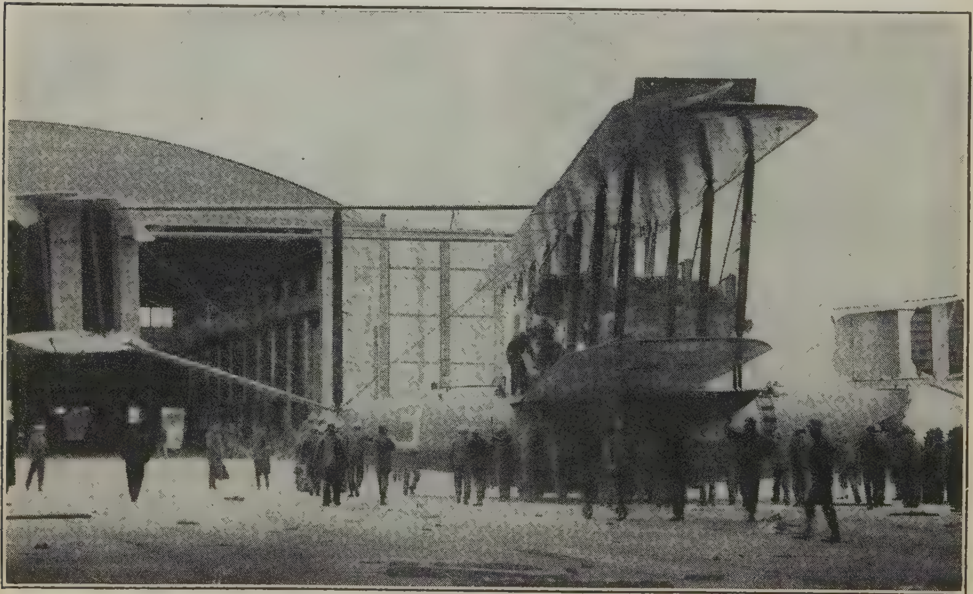
Of outstanding importance among the great airplane races in history is the flight against time by Lieutenant Russell L. Maughan, who flew from coast to coast between sun-up on Long Island and sunset at San Francisco. Close beside this feat stands that of Lieutenants Oakley Kelly and John A. Macready, who won distinction on their non-stop flight from coast to coast. Five years have passed since the first non-stop flight, and four years have gone by since Maughan's dawn-to-dusk exploit. Airplanes are now faster, more reliable, but the records made by these men stood until the two recent non-stop sea-to-sea flights of the *Yankee Doodle.*

Maughan was—and still is—one of the best all-around pilots in the Army. He won the Pulitzer race in 1922, when he set a new world speed record. He flies beautifully and with rare judgment. Maughan's most outstanding characteristic is a streak of stubborn persistence that never says die. He started on his first dawn-to-dusk flight in 1923 and got as far as St. Joseph, Missouri, where the end of a highly imperfect day was assured by a cow that strolled in the path of his plane as he landed.

This was just too bad for the plane, for the cow, and for Maughan—particularly for the last, because he had to start all over again. On his next try, Maughan got as far as Rock Springs, Wyoming, and once more came a cropper, due to engine trouble.

On June 23, 1924, Maughan left Mitchell Field at 2:58 A. M., to make a successful attempt to beat the ancient combination of Old Sol and Father Time. His plane was an ordinary Army pursuit ship, the machine-gun and ammunition load being supplanted by extra gasoline tanks. From New York to Pittsburgh all went fine. Between Pittsburgh and Dayton—100 miles of fog. Between Dayton and St. Joseph—smooth sailing, which was needed to overcome the loss of one hour at Dayton, due to a mechanic's blunder. At St. Joseph more time lost, owing to a soft field that prevented Maughan from taking off with a full load of gas.

From St. Joseph to North Platte, the sturdy pilot began to have his hands full, owing to increasingly strong head winds. The farther west he flew, the stronger the wind; and the higher he flew, the stronger it blew. Maughan found that the wind offered least resistance close to the ground, so for mile after mile, until he had to climb to get over the Rockies, Maughan flew only 10 feet above the ground, climbing trees and hills and houses as he advanced. Dirty weather awaited him in the Rockies, where he was met by a reception committee of fog that clung to the mountain tops and clouds that hung directly above them. Between the fog and the clouds there



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DIRTY WEATHER ENDED HER FLIGHT

The *NC-3*, flagship of the transatlantic flight, was brought down and badly crippled within fifty miles of Ponta Delgada.

was a lane of open air just big enough for Maughan to get through.

Ahead of him the sun was sliding beneath the horizon, although Maughan could not see it through the fog. He thundered over Sacramento, rushed toward San Francisco, and soared over the landing field just one minute before the official period of dusk came to an end. He swooped over the field for eight minutes, waiting for the fog to lift, and finally landed, having covered 2,670 miles in a total time of 21 hours and 48 minutes.

Throughout the country and among flyers abroad, Maughan is celebrated as the Dawn-to-Dusk flyer, but among his cronies in the service he is also known as the Dusk-to-Dawn flyer—and thereby hangs a tale that has its setting at Kelly Field, Texas, in the fall of 1923. Maughan was leaving for St. Louis to attend the Pulitzer races, which he had won the year before. It was pitch dark when he took off and headed, so he believed, toward his goal. It happened that he lost his way and returned to Kelly Field just about dawn—hence the Dusk-to-Dawn flyer.

Kelly and Macready made their non-stop flight from New York to San Diego on May 2 and 3, 1923. On their first attempt in 1922, they started from San Diego but were forced back by bad weather. However, they remained in the air over San Diego long enough to establish a new endurance record. They were aloft for 35 hours and 18 minutes, but their record could be given no official recognition because official timers were not present. In November, 1922, they made their second attempt, also from San Diego, and came within 700 miles of their objective, when a leaking radiator forced them down at Indianapolis. Kelly attempted to keep the plane in the air by climbing out on its nose while in full flight and pouring all the liquids they had aboard—coffee, milk, and water—into the radiator, but his efforts went for naught. Down they came.

Finally, in 1923, after starting from New York on May 2nd, the 2,500-mile flight was accomplished in 26 hours and 50 minutes. It is not far-fetched to say that the endurance demonstrated in the Macready-Kelly non-stop flight promoted the belief that the day was near when airplanes would be able to make transoceanic flights on a greater scale than had been accomplished up to that time.

BEAT SUN BY ONE MINUTE

On the dawn-to-dusk, coast-to-coast flight, Lieutenant Russell L. Maughan soared over the San Francisco landing field one minute before the official period of dusk came to an end.

Kelly has all the wit, all the sympathy, and all the pluck of the Irish. He is a confirmed practical joker and thinks more of a practical joke successfully perpetrated than he does of a record. While he was at the Army Air Corps laboratories at Dayton, as member of the test section, Kelly devised an instrument on which he bestowed the title of lung-tester—an ordinary pipe filled with lampblack, and the better the lungs of the person who blew it, the greater the volume of lampblack it poured over his face.

Macready is a man of many professions. He can qualify as a miner, rancher, boxer, lawyer, and justice of the peace. At one time he was even mayor of a small town in Arizona. He is good-natured, rather silent, and a remarkable non-stop listener. His hobby is athletics. He was once amateur lightweight champion of the Pacific Coast and still keeps himself in splendid physical trim. It is probably due to the extreme care with which Macready treats himself that he has succeeded in establishing his various altitude records. Macready and his ships are always in perfect condition.

Macready, who resigned from the service recently, has been an altitude flyer of rare ability. He has not only the physical stamina to withstand the tax that great heights place upon pilots but also the skill to get the last foot of climb out of his plane. His last great flight was in January, 1926, when he set a new altitude record of 38,704 feet.

Speaking of altitude flyers brings to mind Major Rudolph W. Schroeder, who set an altitude record in 1920 when he climbed to 33,000 feet and there fell unconscious while his plane plunged earthward out of control for 30,000 feet. And Schroeder still lives to talk about it. Major Schroeder is tall—somewhere between six and seven feet—and because of this, it is obvious that he should be known as "Shorty." From 1918 to 1920, he was chief test pilot at Dayton and flew all sorts of ships, as test pilots do. The members of the French Mission stationed at Dayton during the war recognized Schroeder's genius, and when they returned to France after the war they presented him with a Nieuport 28—a small, fast, single-seater pursuit plane, from the cockpit of which the huge form of Schroeder towered like a giant in a baby carriage.

The day before Christmas, 1918, I was in Indianapolis and while in my hotel room I heard a plane's engine. It was snowing. It was almost dark. I looked out of the window, wondering who would be flying on a day like that, when I saw Schroeder's Nieuport flit by almost level with my window. When I returned to Dayton I learned that he had taken off for his home in Chicago with the Nieuport and that his wife sat on his lap in the narrow little cockpit throughout the entire journey. How he handled the controls I don't know.

However, I started out to tell about Schroeder's altitude flight in February, 1920. For the benefit of those whose knowledge of altitude is limited to the fact that 33,000 feet or more is several miles higher than the Woolworth Building let me explain briefly just what happens when a pilot begins the long upward climb that ends only when the air is too light for his ship to go any higher or when his supply of oxygen gives out. For many years it has been the dream of aviators to penetrate into the unknown regions of the upper air in the belief that there they will find easterly and westerly trade winds that blow at terrific pace. Once those trade winds have been found and once aircraft have been constructed that will permit flying in those altitudes, planes will be able to travel over continents and across oceans at terrific speeds.

To the altitude flyer and to those interested in the results he may obtain, mere height means little unless the complete story of the climb is told. For that reason, the pilot must not only keep his mind on the tricky business of flying a ship in rapidly thinning atmosphere but also make repeated entries in his log of the readings on the instruments in front of him. As he climbs it gets colder and colder. His discomforts increase until, when there is not enough oxygen in the air for him to breathe, he switches on the oxygen tanks.

When Schroeder on his altitude flight reached the 33,000-foot level he found he had enough gas left for another 90 minutes of flying. He continued his climb. After struggling 100 feet or so higher, he discovered with horror that his oxygen supply was exhausted. Gasping for air, like one who has been breathing poison gas, Schroeder tore off his mask—the worst thing he could do. The deadly carbon-monoxide gas from the engine poured over him. He inhaled it in hasty gulps. He felt himself go. It grew dark before his eyes. He knew he was fainting. He pushed the stick forward to start the plane in a glide, put his hand on the switch that cut off the engine, and passed out.

Through the frozen stratas of the upper air where nothing can live, Schroeder's plane plunged toward earth in swoops, circles, and sudden darts. Men on the ground saw its crazy manœuvers and wondered what had happened. It came closer and closer. Presently it would crash, and no one would ever know what had taken place. Then, when only 2,000 feet above the ground, the plane straightened out, came down in a gentle dive, described a circle, nosed into the wind, and landed. Officers and men on the field rushed toward the plane and found Major Schroeder, apparently lifeless, slumping over the side of the cockpit, staring at the ground with frozen, sightless eyes. He was rushed to the hospital, where he soon recovered consciousness, but it was some time before he could see, as he had frozen his eyeballs. Afterward Major Schroeder reported how he, at the end of his five-mile fall, had regained consciousness just long enough to realize his predicament and save himself and his ship from a crash. Major Schroeder set a record that day—but he came uncomfortably near paying a top-notch price for it.

"THE SOUL OF A CONQUEROR"

Lieutenant Cyrus Bettis, after crashing his own plane to save the lives of his flight companions, crawled, with a smashed face and broken leg, for forty-eight hours through brush and over rocks without food or water.

America has produced some wonderful racing pilots and will rear many more as time goes on. Of late it seems as if all the speed honors have gone to Europe, but that is only a temporary condition—an added incentive, in fact, for America to recover the laurels it has captured on two occasions in the Schneider Cup races.

The first Schneider trophy victory was scored in 1923 by Lieutenant David Rittenhouse, of the Navy, and the second in 1925, when Lieutenant James H. Doolittle, of the Army, beat the field in the same plane in which Lieutenant Cyrus Bettis, also an Army flyer, had won the 1925 Pulitzer trophy a few days before.

If any one could be called the finest and most skillful flyer in the world, I would nominate Lieutenant Doolittle for that honor. He flies, in my opinion, with more beauty and more finesse than does any other man who sits behind the stick to-day. There is grace and harmony in every movement. It is as if his personality exercises its influence over the plane and it becomes a live and understanding thing. Doolittle has performed many feats characteristic of his dynamic temperament since he entered Army aviation in 1917, but the best picture of Doolittle the man, as well as of Doolittle the super-pilot, is found in his experiences in Chile a few years ago, when he was demonstrating an American pursuit plane.

A few days before Doolittle was to give an important exhibition he stumbled and fell from a balcony, broke both his ankles, and was taken to a hospital. The day for the demonstration had been set, and important Chilean officials were ready to see what the American ship could do. A pilot representing a European make of aircraft was also in attendance. Having heard of the demonstration arranged by Doolittle and of the distinguished company that would be present, the foreign pilot landed his own craft on the field, intending to take full advantage of the occasion. In other words, he was out to steal Doolittle's show.

But in this respect the foreign flyer reckoned without his host. Doolittle received word at the hospital of what was about to happen. Over the protests of doctors and nurses, he was carried to an automobile and driven to the field, where he ordered his ship put on the line and made ready. When that was done, Doolittle put on a helmet and a pair of goggles, had himself lifted into the ship, and climbed skyward posthaste to where the other pilot was doing aërobatics. Now occurred a thing that was not on the program but that proved highly thrilling and entertaining. The Chileans saw a first class pursuit pilot flying his plane into a dog fight.

Zooming, swerving, rolling, banking, Doolittle flew rings around the other airman, pressing him closer and closer toward the earth. The fellow landed, jumped out of his plane, and ran off the field to where the spectators stood, where he complained that Doolittle had cut his wing fabric with the tailskid on his plane. Examination showed a scratch but no hole. When Doolittle landed and had been made comfortable in his car, the complaint was called to his attention.

"I never touched him," he remarked with emphasis. "I never came nearer to his ship than three or four inches."

Only two men have done the outside loop, the most difficult of all aërial manœuvers because it hurls every form of defiance at the laws of gravity. In the ordinary loop the pilot sits inside the vertical circle described by the plane, while he is on the outside of it in the outside loop. It is dangerous business and requires a flyer who can get every ounce of power and instantaneous response out of the plane he is using.

Lieutenant Doolittle was first to demonstrate that the outside loop could be completed. There were many who believed that it could not be done. He performed the feat in 1927, while he was test pilot at the Air Corps Materiel Division near Dayton. This flight made the aëronautical world sit up and take notice. Lieutenant Alford J. Williams, a leading racing flyer of the Navy, has the distinction of being the second man to do the outside loop. Aside from their flying ability Williams and Doolittle have nothing in common. The latter is short and dark, while Williams is tall and fair—a handsome fellow with clear-cut features. The Navy flyer performed the outside loop in the spring of 1928 and won wide acclaim for his feat.

But stunting is not Al Williams's leading specialty. Speed is. From time to time since he took up flying in 1917, Williams has hung up a number of world speed records. Last year he set his heart on winning the 1927 Schneider cup races in a plane the construction and power-plant of which he supervised so closely that for almost a year Williams gave it all his spare time. In fact, he actually commuted by air between New York, where the plane was built, and Washington, where he is stationed. Luck was against Williams. It was not possible to get the ship ready in time for the races, which were held in Italy. The government stood ready to rush the craft to Europe aboard a warship, if need be, but hopes of America's winning the Schneider Cup had to be given up. Tests on Williams's plane showed that it did not have the speed it would need to win.

Lieutenant Williams is a native of New York, where he was born in 1894. At the age of twenty he won his A. B. degree at Fordham. In the summer of 1914 he was a member of the pitching staff of the New York "Giants" and remained on the team until the close of the 1915 season. Just before the war he was baseball coach at the Horace Mann High School.

Prominent among the speed kings of a few years ago was Lieutenant Cyrus Bettis, of the Army Air Corps, one of the Pulitzer race winners, a wholly different type from either Doolittle or Williams. "Cy" Bettis is dead, and there is little doubt that he ran the risk of death to save the lives of two companions. He crashed in August, 1926, while leading a three-plane pursuit formation from Philadelphia to Selfridge Field. As leader of the flight, Bettis flew ahead of and between the two other ships. When they approached the

Alleghenies clouds and fog began to gather. The weather grew thicker. Presently it was impossible to see.

Three planes entered the fog. Only two came out of it. Two days later Bettis was found on a lone mountain road. With smashed face and broken leg he had crawled for forty-eight hours through brush and over rocks without food or water. He was taken to Bellefonte, Pennsylvania, where he was picked up by an ambulance plane and flown to Washington. Bettis died shortly afterward. He never told his story, but it is believed that Bettis flew straight ahead when he saw the mountain loom up before him rather than risk the chance of crashing into one of the planes flying on either side behind him. That is exactly what Cy Bettis would have done.

There are other great racing pilots besides those of the military services, including men whose names are household words wherever airplanes are discussed in America. Where is the man, woman, or child who has not heard of "Casey" Jones, Bert Acosta, and the late but never-to-be-forgotten Lloyd Bertaud? From the early post-war days this trio participated in numerous racing events and usually with distinction.

Bert Acosta, racer, test pilot, and transatlantic flyer, and Lloyd Bertaud, racer, mail pilot, and luckless airman on *Old Glory*, which set out for Rome but was lost, were keen rivals and great friends. Wherever they flew many stories of their antics swirled in the slipstream behind them, but the most amusing of the lot is told of one time they were together at Curtiss Field, near New York City. It was rather late at night, but just how late neither Bertaud nor Acosta knew. Acosta's watch was not running, and Bertaud did not have one with him. The two flyers thought of various ways by which mortals might learn the time of night and finally decided that the most direct and satisfactory course would be to get into their planes, fly to New York, and see what the clock atop the City Hall had to say about it. No sooner suggested than it was done.

International recognition was won by Bertaud in December, 1921, when he and Eddie Stinson established a new world endurance record by remaining aloft for 26 hours and 19 minutes over Long Island in zero weather, with a terrible snowstorm to keep them company. It is doubtful if any endurance flight has ever succeeded under greater handicaps.

The field was heavy with snow when their ship started into the wind on the take-off. It seemed as if the plane would never leave the ground; as if, after it left the ground, it would never gain altitude. The heavy load of fuel made it difficult for the ship to climb, but finally they got up and away. Throughout the day and night the snow continued to fall, and with it came a 40-mile-an-hour gale that raised havoc with the gas consumption of the Stinson-Bertaud plane when it fought its way against powerful head winds. The wind and weather turned the flight into more than a test of motor endurance. It was a gauge of the skill and courage of the pilots as well. Finally, on the second day, a defective oil system compelled Stinson and Bertaud to land, although they had enough gas in the tank to remain in the air for five more hours. Both were frozen and fatigued—particularly Stinson, whose clothing consisted of only a fur-lined coat over an ordinary business suit. Stinson, it will be remembered, established a temporary endurance record in Florida last winter when he, with Captain George Haldeman, of *American Girl* fame, stayed in the air for 53 hours and 36½ minutes.

Acosta, as a pilot, is in a class by himself. He understands ships, particularly heavy ships, better than any man I know. He is a marvelous test pilot and has an uncanny gift for discovering, within a few seconds, the strong and weak points in a plane. Acosta is a much greater test pilot than a cross-country flyer. He often gets lost but is usually able to land, find out where he is, and continue on his way. Some years ago he was piloting J. M. Larsen from the Pacific Coast to New York. Larsen, who knew Acosta's method of flying, passed several notes to the pilot asking him where they were and received no reply.

Finally their ship passed over a city, and

Larsen wrote a note inquiring what city it was.

Acosta turned the note over and on its back wrote:

"It may be Wheeling, but I think it is Cleveland."

It was all the same to Acosta so long as he got to New York—which, by the way, he did.

Casey Jones's name and position is more formally expressed as Charles Sherman Jones, vice-president of the Curtiss Company. If any airman belongs in that tome of distinction Casey does, for almost every celebrity in the worlds of finance, society, sports, or art who has ever been in a plane has looked at the back of Casey's neck from the rear cockpit of Casey's plane. He began his flying days in the Army, during the war, and was one of the lucky fellows who got to France. When hostilities ceased Jones, instead of returning to his old job as physical director at Montclair Academy, went in for airplane racing, and his record shows that he could usually be depended on to capture either first or second prize.

Casey Jones has a room filled with trophies and souvenirs of various kinds, but whenever he goes to a race—and he attends all of them, even though he may not be an entry—Casey brings his most cherished possession with him—a vest that once upon a time was white, but that was so long ago that it is almost a fairy tale. On the vest in various inks, curlycues, and strokes are the signatures of Casey's list of "Interesting Persons I Have Met." The garment is Casey's autograph album; and, like Art Smith and his famous vest, Jones dons it only on state occasions. When he has it on—well, anything may happen.

One of the interesting contributions made by Casey Jones—not by Charles Sherman Jones—to aviation is a game called airplane golf. How is it played? In this manner: There is a pilot and a plane for every player on the ground and the pilot has a ball for every hole to be played. Each pilot drops his ball as close to the green as he is able to—on it if possible—and then it is up to his partner on the ground to hole in in the lowest number of strokes.

The subject of racing pilots and endurance flights brings to mind one of the oddest non-stop endurance flights in history. It was staged by Lieutenant Lowell Smith and Lieutenant J. P. Richter in 1925, when they flew 1,200 miles on the West Coast from the Canadian to the Mexican border without stopping, in ordinary D-H planes. The trip took 12 hours and was made possible by refueling in the air, a difficult performance that required extreme skill and caution on the part of pilots of both planes.

In December, 1923, an airplane flying from London to Belgium was forced down at sea. What happened from then on is not known, but it is believed that its pilot—a stalwart young athlete—attempted to swim to shore through the icy waters of the Channel. At any rate, this flight marked the passing of Lawrence Sperry, whose inventive genius produced many valuable contributions to American aviation.

Although he was only in his thirtieth year at the time of his death, Sperry had won international fame, not alone as an aëronautical engineer but also as a pioneer in realms of flight that even to this day have not been mastered. It was Sperry who conceived the idea of an aërial torpedo—a plane loaded with high explosives and propelled through the air under its own power, but directed by a gyroscope toward its destination, where it would crash to earth and explode. Sperry developed the idea during the war and conducted several experiments that indicated that a new and deadly engine of destruction was in process of evolution.

The first test of the aërial torpedo was made on Long Island, in the presence of several military aëronautical experts. An ordinary plane, with its landing gear removed, was used in this experiment. The control mechanism was set so that the plane should fly straight ahead for about a mile, when it would dive and crash. The take-off was made from a catapult. With engine roaring, the plane rushed into the air, gained altitude, straightened itself out, and flew as if controlled by a pilot. However, the crashing mechanism did not work on that first test. The plane flew toward the skyline, out over the sea, and kept going until completely out of sight. For all the world knows it may have kept running until it was out of gas; at any rate, no trace of it was ever found.

Sperry began his aëronautical experiments in 1909, when he, at the age of sixteen, built a plane that he flew the following year in towed flight. This kind of flying did not satisfy him, so in 1911 he installed a motor, with the result that young Sperry became a real airman. At the age of nineteen he was manager of the airplane department and chief research director of his father's concern, the Sperry Gyroscope Company, and at the age of twenty-one he won first prize in an aviation safety contest conducted in France.

A veritable fountain of ideas that always were designed to advance aviation was Sperry. He tinkered with innovations of various kinds—not one or two, but a whole flock of them. In the midst of a conversation he would get an idea, pull out pad and pencil, and make notes. He helped design the Sperry Messenger, the smallest airplane ever built, and flew it extensively. Sperry actually took air travel as a matter of course. He always went by plane, really commuted by air. Night or day, rain or shine, it made no difference to him. If he were going to a place where a plane could take him, he went by plane. Sperry had many forced landings at night, but without disastrous results. He seemed to have eyes that penetrated darkness like those of a cat, and like a cat he always landed on all fours.

Sperry had no fear of forced landings or even of crashes. He took them as an unavoidable part of the game, and because he classed them as normal hazards he was a firm advocate of crash-preparedness. Illustrative of his attitude in this respect was his suggestion that the military services should give regular crash-courses to pilots. These, he believed, should consist of actual crashes with ships no longer fitted for service. He offered to supervise the course of instruction and to demonstrate how pilots might crash and still escape injury. The crash-course, as Sperry outlined it, would have three stages. The student would first crash into swamps, primarily to overcome his fear of crashing and also to learn what happens to a plane when it makes an involuntary landing. The next stage would comprise crash-lessons in trees, while the third would be on hard surfaces like stones or cement.

The death of Sperry was a great loss to American aviation. It may be regarded as a foregone conclusion that he would have done much to further the safety and success of air travel. He might have lived had he stood by the plane instead of attempting to swim ashore, as it is surmised he did. The plane was found floating in the water, but Sperry had gone on.

The World War ended some ten years ago, but so far as the Marine Corps is concerned a war of some kind or other is always going on. With the advent of the airplane the old maxim to the effect that "the Marines have landed and have the situation well in hand" has taken on a new and important meaning.

Down in Nicaragua, where General Sandino has been conducting a campaign for President on a platform that consists mainly of rifles and machine guns, the Marines have had their hands full for some little time running another ticket that calls for law and order. Among those who have covered the campaign with great distinction and much glory is a group of the Marine Corps pilots. Day after day, for months on end, these flying Marines have done their stuff over mountains and jungles in all sorts of weather, in a manner that is as admirable as it is amazing.

Among Marine pilots on service in Nicaragua was Lieutenant Frank Schilt, a fine pilot with racing blood in his veins, as he demonstrated in 1926, when he came within a hair's breadth of winning the Schneider Cup for America. He came in second. However, in another race staged in January, 1928, over a 25-mile course, in a desolate section of Nicaragua, Schilt came in first, not once but ten times. The race lasted three days, and the stakes were human lives. The award that fell to Schilt was the greatest distinction this country can bestow upon men who perform deeds of valor over and above the call of duty—the Congressional Medal of Honor.

Picture a tiny Nicaraguan town with two ragged lines of squat, adobe houses grouped along a narrow street through the center of which runs a three-foot ditch, and you have a fair idea of the town of Quilali, where in January a handful of Marines were besieged by members of Sandino's band. Steady activity by outlaw sharpshooters had taken heavy toll among the members of the small garrison. Two officers and sixteen men had been wounded—nine of them seriously. All of them faced certain death unless they received immediate and proper care. Food was scant and ammunition almost exhausted.

Word of the predicament of these men was received at Ocotal, twenty-five miles away, where the Marines had their base. It would be impossible to send relief to Quilali by foot or mule in time to save the men from their doom. There was only one way out—the airplane. A survey was made. It disclosed that it would be impossible to land a plane outside the town, as there was no field level enough for landing even if Sandino's soldiers did not subject the plane to heavy fire, as they could most certainly be relied upon to do. Eventually it was decided that the main and only street of Quilali offered the sole landing field in the neighborhood. But it was only 15 feet wide, and in its center ran a ditch that would be sure to wreck a plane as quickly as would a shell. The street had to be used; and as a first move to make landings possible picks and shovels were dropped from planes flying low over Quilali. The besieged Marines tore down buildings, filled in the ditch and thus built a runway that was 70 feet wide and 300 feet long.

As soon as this rough and dangerous landing field had been completed, Schilt began the hazardous job of evacuation. On January 6th, 7th, and 8th, he made ten round trips between Ocotal and Quilali. He was under almost constant fire from Sandino troops. The seriously wounded were taken one by one in the rear cockpit of his observation plane, while those who were less dangerously injured were taken out in pairs. As Schilt performed his mission, another pilot hung above him ready to pour streams of machine-gun lead into any Sandino troops that might launch an attack.

The job Schilt performed so well called not only for superior courage but also for exceptional flying ability. The weather throughout the three days was extremely bad. Low clouds, heavy rains, and dense fog made flying extraordinarily hazardous, and the country over which he flew was wickedly treacherous under even ordinary flying conditions. Despite these handicaps, Schilt got through—not once or twice, but ten times: ten landings on a rough and stony strip of ground; ten take-offs that were made possible only by Marines holding on to the wings of the ship until it was in flying position and the motor had gained its maximum power, thus shortening the distance necessary for the take-off. Three hundred feet may be a good distance for a niblick shot out of a bunker but is no distance at all for a plane to take off in.

Pilots such as Lieutenant Schilt add new glory to the already brilliant records of flying Marines, who have dared and died under the emblem of the Globe and the Anchor. However, to Schilt his five hundred miles of dangerous flying was only part of the day's work. But the fact remains that on his tunic rests the light blue ribbon with thirteen silver stars presented to him by the American people for exceptional valor and gallantry in action.

Much has been said, written, and thought about William Mitchell—the storm center of one of the bitterest controversies that has ever raged about American aviation. To some he is a martyr; to others a menace. His friends believe he sacrificed himself for the cause of aviation. His enemies contend he was caught in a web of his own making. But whatever the pros or cons in the case may be, the Mitchell controversy is and always will be an integral part of American aviation history, and General Mitchell will forever stand out as a picturesque, stormy, and interesting figure in its pages.

The storm clouds of the Mitchell controversy appeared on the horizon soon after 1921, when the fiery General made charges that there was a deliberate move on foot to hamstring the air defenses of the country, despite bombing demonstrations that resulted in the sinking of two warships and that, General Mitchell asserted, "proved to the world that air power had revolutionized all schemes of national defense." From time to time he issued charges that the true facts with respect to the serviceability of Army planes were being suppressed and that the planes in use were dangerous to fly and useless in military operations.

The climax of the flow of criticisms from General Mitchell's fluent tongue and fertile pen came in September, 1925, when the nation was shocked by the *Shenandoah* disaster and worried over the fate of Commander Rodgers and the crew of the *PN-9*, the Navy plane that attempted the first flight to Hawaii. At that time, General Mitchell issued a statement in which he subjected the War and Navy Departments to vitriolic attack. On the very heels of this statement followed action that led to trial by a court-martial.

General Mitchell had a distinguished and dramatic military career. He always managed to be in the thick of things when any excitement was on. Starting with the Spanish–American War, in which he was the youngest Army officer, he took part in the quelling of the Philippine insurrection; was in the Army of Cuban occupation; went with General Pershing into Mexico; and threw in his lot with the air service in 1916. General Mitchell took to flying as a duck takes to water. In the World War he was the first American Army officer under fire and the first flying officer to cross the lines. He was a brave and fearless fighter, who, despite the fact that he held the rank of Brigadier-General and had charge of all air activities in the zone of advance, flew wherever his men flew, and the greater the danger, the greater his joy.

When the war ended General Mitchell returned to this country. In 1921, he was appointed Assistant Chief of Air Service for a period of four years. During those four years General Mitchell moved with the speed of an express train and worked incessantly. I recall how he, after the 1922 Pulitzer races, stepped into a racing plane for the first time in his life—and racing planes are tricky things to fly. He gave it the gun and when he landed a little while afterward General Mitchell had established a new world speed record of more than 244 miles an hour. He had done a remarkable job in flying that plane, but Mitchell took it as a matter of course.

In 1925, when his term as Assistant Chief of Air Service expired, General Mitchell reverted to his original rank of Colonel and was made Air Officer of the 8th Corps Area with headquarters in San Antonio, Texas. This was his last post. From there he launched the attacks that led to his trial and eventually to his resignation from the service.

As I observed at the outset: To some General Mitchell is a martyr; to others he is a menace—but to friend and critic alike he is a man.

The purpose of these sketches is not to give a complete delineation of air progress in the United States but to present a series of pictures of some of those who in various ways have contributed the color and inspiration with which the heavier-than-air chapter in the history of American aëronautics is so richly endowed.

In Le Mans, not far from where Wilbur Wright made his first flight in France, stands a slender shaft in memory of the Wrights. On it is inscribed a verse by Victor Hugo that epitomizes the dauntless courage and the deathless spirit of those who devote their days and give their lives to promote the cause of aviation:

> You know that our soul is strong
> And fears naught
> When God's breath lifts it high;
> You know that I shall climb
> To the stars above,
> Undaunted in will, to the sky.

And that may well be the credo of the Knights of the Air.

Peace in Commerce, Good Will Among Business Men

An Article on the Progress of Commercial Arbitration

GREGORY MASON

FOR TWENTY-FIVE DOLLARS and a two-cent stamp any business man who finds himself in a dispute with another may get a just, quick, and legal settlement of the matter without going to law, providing the second party to the controversy is as interested as he is in securing a solution that is fair, prompt, and valid. The two-cent stamp will be used to write to the American Arbitration Association, which will put the applicants for a just decision in touch with the nearest tribunal of commercial arbitration. By spending a few more cents for a telegram or a telephone call the business man may have his dispute started toward solution on an hour's notice.

This machinery is available to any one. It is adequate. Its flexibility is amazing. An office may serve as a court room. Arbitrators are drawn from a National Panel of Arbitrators, consisting of more than 4,500 business and professional men in 1,400 communities of the United States. Contestants may also select their own arbitrators, when it is expedient; and all these men are qualified to give intelligent decisions in their particular fields and are bound by oath as well as character to give unbiased judgments. On the arrival of the judges the rules are produced by the secretary. The disputants bring their witnesses and evidence, and almost magically a court of justice appears.

Then, too, many industries have already set up their own arbitration tribunals, and chambers of commerce all over our country are placing the services of arbitrators at the disposal of commercial contestants. In short, American business is taxing itself to relieve the overcrowded condition of the law courts that the ordinary taxpayer supports. This means that American business has discovered that friction reduces profits, and that it is good business to maintain good will. More and more of our merchants and manufacturers are in a mood to sympathize with the sentiment that moved Voltaire when he said, "I have been ruined twice in my life—once when I lost a lawsuit and once when I won it."

The growing distrust of our formal legal machinery, the spread among our citizenry of a suspicion that justice is breaking down—all this has strengthened the determination of business to settle its own quarrels in a prompt and businesslike fashion. Appeals, motions for new trials, all the apparatus for procrastination familiar to lawyers have become distasteful to the real rulers of America, her business men.

One wonders what may happen to the lawyers if all our people come to realize how much litigation may be avoided by a little reliance on common sense and good faith. How potent are these traits when exercised, especially the latter! How much it strengthens our confidence in the whole human race to learn that not one case in ten thousand settled by commercial arbitration is ever appealed or sent to court for legal enforcement! The parties to a dispute agree in advance to accept the decision of arbitrators they have selected, and in 9,999 cases out of 10,000 they keep their promise to each other without benefit of bailiff or constable. Here is government by the people indeed!

It is impossible to estimate in dollars and cents the great saving that American business now gains through arbitration. In the motion-picture business alone, investments running into hundreds of millions of dollars are protected by the thirty-six boards of arbitration that are maintained by the silver-screen magnates of this country to solve the issues arising among themselves. It is where a question of fact concerning a right to property is concerned that this method is most successful; and one cannot calculate the worth of the property involved in the silk, cotton, clothing, leather, wool, food, fuel, fur, grain, hay, rubber, lumber, and a dozen other fundamental industries, all of which protect foundations of good will and credit through the use of commercial arbitrations.

Commercial arbitration should not be confused with political arbitration or industrial arbitration, which is concerned with the settlement of disputes between capital and labor. Remember, moreover, that commercial arbitration is sharply distinguished from commercial mediation or conciliation. The commonest form of commercial mediation is where a third party offers his services as peacemaker to two business men that he sees in a deadlock. Mediation is informal, and the mediator may talk with either party without the other's being present. It might be said that mediation is merely bargaining with the aid of a supposedly disinterested prompter. For this reason mediation generally ends in a compromise. Finally, the outcome of mediation is not enforceable in court, except as the result of a separate suit based on the findings of the mediator.

On the other hand, a prerequisite condition of arbitration is that both parties to the dispute shall agree on the arbitrator and ask him to judge the case on its merits. Arbitration is formal; the arbitrator does not talk with one party except in the presence of the other. Arbitration is not concerned with bargaining but with the attainment of justice. Consequently, it seldom ends in a compromise. Lastly and

"MANY INDUSTRIES HAVE ALREADY SET UP THEIR OWN ARBITRATION TRIBUNALS"
The Arbitration Committee of the American Spice Trade Association, which has used arbitration for twenty years, considers a case. The president, B. H. Old (left), presides.

LUCIUS R. EASTMAN
President of the American Arbitration Association and one of the two American members of the Economic Committee of the League of Nations.

most important, in most of our states arbitration is recognized as having just as much validity as a court judgment.

In addition to the Federal statute providing for arbitration there are modern laws facilitating the maintenance of commercial peace by this means in New York, New Jersey, Massachusetts, Oregon, Pennsylvania, California, and Louisiana. But even in a number of other states that have not yet adopted the most modern type of legislation on this subject, an arbitration award may be taken into court and confirmed, with judgment entered therein. And note that all the elaborate pleadings and vexatious delays of ordinary litigations are avoided. Only the convenience of the parties to the dispute needs to be considered, whereas in ordinary lawsuits there are usually annoying and expensive delays. These are due not only to the congestion of our court calendars but also to the pardonable ignorance of juries when technical matters are the subject of dispute. On the other hand, the winner of a favorable arbitration award is in just as strong a position as if he had won a lawsuit, and the decision has cost him much less time and money.

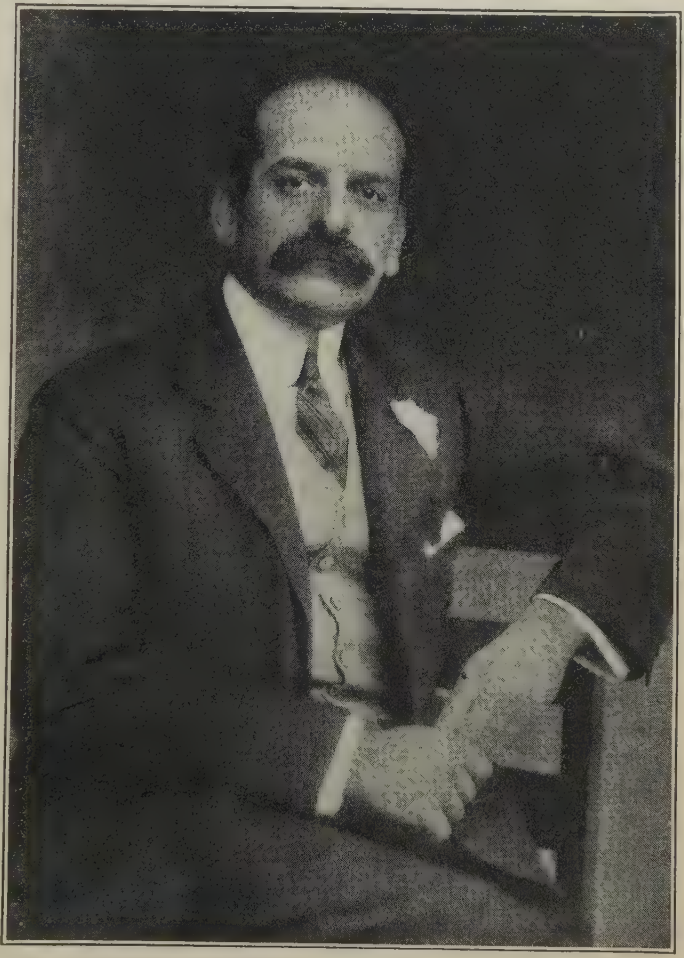
Commercial arbitration has a long history. This is obviously so, since it is based on the willingness of disputants to submit their grievances to judges whom they themselves select and since getting out of a conflict without violence is the basis of all rudimentary systems of justice. There is evidence that as early as 350 B. C. the Athenians had a system of arbitration closely resembling that in use in the United States to-day. The Romans, too, used such methods from 450 B. C. to 30 A. D. Often when two Roman traders got into a dispute over a contract involving a deal in wine, olives, or what not, the judge merely determined the law to be applied and then turned the case over to an arbitrator who investigated the facts and pronounced judgment upon them.

Through the Dark Ages of mediæval Europe, arbitration seems to have lapsed into the desuetude that overtook other graces and benefits of civilization. But as we might have expected, the merchants and navigators whose activities enriched the trading cities of northern Europe in the Hanseatic League revived commercial arbitration. For then, as now, it was the business man and not the lawyer who was interested in the quick settlement of economic disputes.

In France as early as 1250 there were official lists of persons engaged in different businesses that were made up "to expedite and conclude pleas." In 1560, one hundred of the foremost citizens of Paris banded together into a tribunal of commerce. This *Tribunal de Commerce* survived the French Revolution, which blew other courts to bits, and has continued in existence to this day.

The Law Merchant of England—the curious title of an ancient court—had its origin in the fair and market towns. Traders' disputes were settled there by Courts of Piepoudre [dusty feet], where merchants who had tramped in from the countryside could have their cases arbitrated. But in 1609 this speedy and effective system of justice while you wait suffered a setback—Chief Justice Coke held that agreements to arbitrate were not irrevocable. This meant that a party to such an agreement, finding his own claims insufficient and for this or other reasons knowing that the verdict would be against him, could break his agreement and refuse to arbitrate. His opponent then had no recourse other than to institute a long, tedious, and expensive suit in an established court before a possibly ignorant jury, which might well fail to recognize the justice of his claims. It was not until 1889 that a law was passed that made a submission to arbitration irrevocable. British business men, with customary shrewdness, quickly took advantage of this privilege, and to-day it is their usual method of adjusting differences.

In the United States progress has been



FELIX M. WARBURG
Chairman of the Board of Directors of the American Arbitration Association.

slower. Despite our much-vaunted progressiveness and initiative, the attention of our business men has been devoted mainly to manufacturing and marketing. We have lagged way behind England and the Continent in the adjustment of trade disputes. In England, for example, a large number of commercial cases never come into court. This is especially true of the vast wholesale trades that give English ports their position in the sea-borne trade of the world. There is a well-confirmed tradition that even though there be no written contract covering a particular dispute, it shall be submitted to arbitration. Yet legal opposition and hidebound tradition had to be overcome before this sane method could be established. Judges, juries, and lawyers had to be considered and conciliated. Litigation was their livelihood. The habit of court procedure was strong in people, and consequently spasmodic attempts to have existing statutes revised met with slight support.

Finally, however, the powerful state of New York woke up. She had always been the leader in this movement, for in 1768 a Chamber of Commerce was established in what is now the City of New York. One of the purposes of this organization was to settle disagreements between merchants of the town. During the Revolution, when the English courts were discredited and before the establishment of proper American courts, most of the controversies of the citizens were handled by this chamber. But for a long while after the Revolution the advantage of this privilege was ignored, and for nearly a century trade disputes were carried to the civil courts.

Not until 1874 did the people of New York realize that their methods of handling trade quarrels were not only extravagant but archaic. In that year the state recognized the arbitration policy and facilities of the Chamber of Commerce, which had not ceased entirely to function. A law was enacted giving the Governor of the state power to appoint an arbitrator for this court, as well as the official clerk. No provision was made for the enforcement of decisions, but even with this handicap the court was able to carry on.

As time passed the attitude toward arbitral methods became more enlightened. Trade associations increased in number and power. These, by establishing tribunals for the adjustment of disputes between their members, demonstrated the value of the arbitral system; and in 1911 the first efficient, organized effort was made to arouse general interest in a comprehensive program for enforceable arbitration.

Each year the courts had become more congested. Additional judges and increased facilities only added to the taxpayer's expense and exposed the inadequacy of the system. We are all vitally interested in that which affects our pocketbooks, so the fact that time and money might be saved had a potent appeal. We also like to feel that justice, in theory at least, consists in judgment by our peers; and the arbitral method certainly realizes that ideal more nearly than any judgment by a hit-or-miss jury.

The education of the public was developed along these lines, and in 1920 New York again took the lead and amended her statutes. This time she made a thorough job of it. The forms to be used in submitting disputes to arbitration were fixed. The clause that either party to a dispute might withdraw at any time before the award was made was revoked. Submission to arbitration clauses in a contract was made enforceable and irrevocable. Furthermore, an agreement to arbitrate a future dispute was made valid. Under these statutes an award may be enforced in a summary manner. All that is needed is to present to a court the agreement to arbitrate and the arbitrator's award, and on motion of an attorney the court confirms the decision.

This radical legislation made a definite break with legal tradition and gave much-needed impetus to the cause in other states and in Congress. But, though the national leaders were greatly impressed, not until 1925 did they feel moved to act. In that year Congress passed a bill to bring Federal arbitration in harmony with this New York action, including maritime cases as well as interstate disputes. The American

Bar Association states that this was the most valuable piece of commercial legislation in a quarter of a century.

The endorsement of the government should silence if it does not convince those doubting Thomases, in whom sentiment is stronger than reason, who see in this movement the downfall of the jury system and the toppling over of all our cherished institutions. They fail to note that twelve men equipped with good intentions in lieu of exact knowledge cannot be so efficacious in commercial cases as two or three arbitrators possessed of precise knowledge of the commodity in question.

Could a jury composed of a laundryman, an automobile salesman, a carpenter, or what not, be expected to decide intelligently on the merits of a case involving, let us say, the quality of a piece of silk or linen? To be sure, both sides could call experts to explain their contentions to this mixed jury and to impart some knowledge of the highly specialized product in question. Eventually a decision must be given, which may or may not be just.

Figure the cost in time and money of this method as compared with the handling of such a case by arbitration. A pertinent illustration is that of the silk manufacturer who sent several pieces of silk to be cross-dyed, the design to be a light background with a large check. He later refused to accept the goods, claiming that the background was so dark that the cloth was unmarketable. Two silk merchants and the vice-president of a dye works were agreed upon as arbitrators. After hearing the evidence they examined the goods and found it was impossible to dye the material as ordered. But they also found that part of the silk could be redyed in popular combinations. They awarded the manufacturer an allowance of 50 cents a yard and directed that the goods be redyed without charge.

Despite the fact that case after case might be quoted to show the economic and ethical advantages of arbitration, the objection has been made that a "state within a state" might be evolved; that a business-legal bureaucracy might develop that would conflict with the logical functions of the commonwealth. These fears are refuted by the fact that modern arbitration methods are legalized. Their judgments are confirmed by the courts. They are sanctioned by the states and by the national government.

Though men are thinking more and more in terms of organization and good will, the millenium has not arrived. The future of arbitration lies before it. There are still about thirty states in this country hampered with out-of-date, inadequate commercial laws. It is a man-sized job to overcome inertia and raise standards, but such organizations as the American Arbitration Association, the several Chambers of Commerce, and the various great trade associations are carrying on a nation-wide campaign of education along these lines. They are working for the enactment of efficient arbitration laws by the legislatures of every state in the Union. Not only for its economic value is this being done but also to help develop the "will to peace" throughout the land. When this has been accomplished we shall have made great strides in this country toward that brotherhood of man that was the cherished dream of Abraham Lincoln.

THE WORKSHOP

THE SERIES of three articles on the pertinent question "What's the Matter with Mexico?" by HENRY KITTREDGE NORTON, has aroused great interest, and below we print two letters that we have received from readers. The first comes from an American resident in the State of Sinaloa.

To the Editor, WORLD'S WORK.

Sir: Mr. Norton avoids the common errors that American writers on Mexican affairs usually commit, but he fails to emphasize duly two elements of the situation. In the first place, a fundamental shortcoming of the Mexican character lies in the inability to form associations for large scale commerce or manufacture. They make excellent clerks, cashiers, salesmen, and mechanics, but throughout the country the business executives are foreigners. After the revolution an attempt was made to displace completely the American employees, who up to that time had held all important places on the railroads, but there still remain a few division superintendents and higher functionaries, and, if the railroads go back to private ownership and operation, the number will probably increase.

A few miles from this place is a town called El Valle, where crude pottery has been made for centuries. Each family has its own kiln and when a cartload of finished ware has accumulated they go through the country peddling it from town to town and house to house. No Rockefeller or Harriman has yet arisen to consolidate the whole industry into one unit, with the resulting economies.

Another matter to which Mr. Norton failed to call attention is immigration, which is bound to become of increasing importance. The present population of Mexico is about 14 millions. The native races increase little, if any, and whatever increment of population comes is from the mixed races or recent immigration.

Now I consider it no exaggeration to say that the country can support 100 million people, so when the flood of immigration starts it will, in a few years, completely change the complexion of society. The Chinese, who have monopolized retail trade almost completely, are not liked, and exclusion laws are desired by many. If the coming immigration should be from the United States or northern Europe then the country will quickly approximate the position of the United States in commerce, industry, and culture. If the immigration is from Asia Minor, Sicily, or southern Spain, then there will be little change from existing conditions in a country governed by soldiers who consider it a milch cow to give them luxury in idleness.

The West Coast has in most directions greater natural resources than has California, and the changes that took place there between 1850 and 1900 may be repeated here in much less time, if a current of 100,000 American immigrants were to pour over the Sonora border each year.

The second letter, from a reader in Roswell, New Mexico, questions the truth of a statement on land tenure made by Mr. Norton.

To the Editor, WORLD'S WORK.

Sir: Mr. Norton says that at the close of the Porfirian régime (in Mexico) "The arable lands of the country had, almost in their entirety, come into the hands of less than a thousand owners or *hacendados* and into the possession of the Church. The vast mass of the people were left without land."

This statement is so preposterous and ridiculous as to merit no attention were it not put forward as an excuse and justification for the anarchic reign of murder and pillage that has prevailed in that unfortunate country since Washington saw fit to underwrite the socialist revolution. There were hundreds of thousands of landowners in addition to millions of Indians still occupying lands in common. And there were, and still are, many millions of acres of good lands waiting settlement.

The statement regarding the Church owning land is equally absurd, for it is no secret that the Church has been outlawed since 1857 and so not permitted to own a square foot of land. Previous to 1857 the real estate charged to the Church really belonged to the endowments of the numerous educational and beneficent institutions with which the country was blessed. These endowments excited the greed of the politicians, who finally pillaged them and extinguished the schools, hospitals, and asylums supported by them. To justify their thievery the politicians invented the calumnies still current.

Why did the decent people of Mexico permit this? Because the United States Government used its armed forces to protect the pillagers. Consult the records of Buchanan and Wilson.

Eber Cole Byam.

A reader in Crawfordsville, Indiana, thinks that Mark Sullivan's article entitled "The Campaign Warms Up," in the October issue, "is rather misleading and does not cover an important phase of nullification"—which he explains below.

To the Editor, World's Work.

Sir: Mark Sullivan seems to think that the prohibition amendment is going to "stay put." He seems to have entirely overlooked the possibilities in the Supreme Court of the United States. The Supreme Court is composed of mere men who carry their fixed opinions with them and in this case the majority were dry.

As in the next four years some of that body will die or resign the President can select as their successors men who are in accord with himself, and with only a majority of one in his favor the Eighteenth Amendment can be thrown into the discard and in a week's time the corner saloon can be reëstablished.

The Indiana State Supreme Court furnishes an example of their power to nullify the people's wishes. It is 3 to 2 wet, and all decisions concerning liquor violations are decided in that ratio where the search and seizure law is concerned, making it almost impossible to convict for lack of what they consider legal evidence—this in spite of the fact that it is contrary to the rules as applied by the United States courts. The change of one judge from a wet to a dry would restore the old line of decisions.

Chas. Cadwallader.

From an engineer in Berkeley, California, comes this dissent from Richard Olney's conclusions in his article "Shall We Revise the War Debts," in our October issue.

To the Editor, World's Work.

Sir: Mr. Olney makes the astounding statement that "The direct audited losses of the late war were about $200,000,000,000, exceeding the total wealth even of the United States before the World War."

"Wealth consists of all consumable utilities which require labor for their production and can be appropriated and exchanged," according to the "Encyclopædia Britannica," and the World Almanac, 1928, records the the wealth of nations as follows:

	1912	1922
Great Britain	$ 75,000,000,000	$130,000,000,000
France	58,500,000,000	60,000,000,000
Italy	22,000,000,000	25,000,000,000
Belgium	6,000,000,000	12,000,000,000
Allies Total	$161,500,000,000	$227,000,000,000
United States	$186,000,000,000	$320,000,000,000

From these figures it is evident that, notwithstanding the "audited losses" of $200,000,000,000 worth of wealth, the Allies (on whom the losses fell) have increased enormously in wealth. And, as a final result, not only were the losses recouped but a huge profit accrued—amounting to sixty or seventy billion dollars. So, instead of being a financially losing and destructive enterprise, it would seem that war is profitable and productive.

Mr. Olney agrees that "we should deal with a debtor nation according to its 'capacity to pay.'" He shows that the United States has already cancelled, on the average, 50 per cent. of the war debts and then says: "I should cancel 30 per cent. more of such debts" and "take into consideration only those loans that were contracted after the armistice was signed."

I find it difficult to follow Mr. Olney's reasoning, for authoritative figures show that the European Allies have far greater "capacity to pay" than they had before the war, and their total debts to the United States are less than one sixth of their increase in wealth since 1914.

William H. Smith.

The Manager of the Protective Department of the Illinois Bankers Association writes us that Howard McLellan's article, "Corn Belt Vigilantes," in the October issue, "is particularly interesting to me because I am the Saunders that is mentioned." This comment follows.

To the Editor, WORLD'S WORK.

Sir: The way the organization was started is, briefly, as follows: When bank robbery became so prevalent in Iowa in June, 1924, Governor Harding assigned six Special Agents and myself to the Iowa Bankers Association to work under the direction of Secretary Warner. I was sent to Greenville, in Clay County, one Friday evening by Mr. Warner because the bank at that point had been burglarized, and upon my arrival there Sunday morning I received a telegram from Mr. Warner stating the bank at Wallingford, about forty miles away, had been burglarized on Saturday night. Upon my arrival at Wallingford I received another telegram to go to Emogene, in the southwestern part of the state, as the bank there had been burglarized.

I hurried to Emogene and after looking over the bank there I boarded a train for Council Bluffs and was handed a telegram from Mr. Warner by the conductor stating the bank at Pleasanton in Decatur County had been burglarized. As I entered the bank at Pleasanton the telephone was ringing and it was Mr. Warner calling me, stating the bank at Grand River, in the same county, had been burglarized the night before.

While I was driving from Pleasanton to Grand River I said to the sheriff, "These bank robbers are having more fun with me than any one in the world. Here I am running about over this state with scarcely time to look these banks over and not apprehending anybody, so we must try some other plan."

Upon arriving at Grand River I called Mr. Warner and told him I was going to call all the bankers in the county to meet that night, which I did. Every banker was present and they decided to offer $1,000 reward for the robbers of the Pleasanton and Grand River banks and also for any future jobs.

The next morning I returned to Des Moines and Mr. Warner and I went over to Governor Harding's office, where we had a conference with him, and it was at that conference that he suggested the Vigilante idea and ordered me to coöperate with Mr. Warner in building a Vigilante Unit in every town in Iowa that had a bank. He said to me, "Now I mean to stop these bank robberies and burglaries in this state and I want this organization to amount to something and I will deputize every citizen that will act as a Vigilante as a Special Agent of the State of Iowa with authority coextensive with the state."

R. C. SAUNDERS.

The next two letters contain comment on statements made by Warden LAWES in his articles in this magazine. The first letter is from Colorado Springs, Colorado.

To the Editor, WORLD'S WORK.

Sir: The argument that capital punishment has not stopped murder has been worn threadbare by sentimentalists. Prisons have not stopped stealing. So why not tear our prisons down? Law has not prevented crime. So why not abolish law and establish an anarchy?

Capital punishment is not for the purpose of revenge, but to remove a menace to society. The mentally unbalanced murderer is more of a menace to society than the one of sound mind and if the benefit of doubt is to be given either, it should be given the one who has the mental capacity to reform.

ARTHUR E. WALKER.

A mining engineer in Hilger, Montana, points to Warden Lawes's criticism of the American Bar.

To the Editor, WORLD'S WORK.

Sir: In your June Number, Lewis Lawes says, "Thus it happens that it is seldom that a person who is able to have eminent defense attorneys is convicted of murder in the first degree, and very rare indeed that such a person is executed. Incidentally, a large number of those who are executed were too poor to hire a lawyer, counsel being appointed for them by the state."

Bluntly, if you have the money, you need have no fear of the law—surely a most drastic arraignment of our judiciary and the legal profession in general.

The legal profession has degenerated from the high office of interpreting the law to that of obstructing it. A large proportion of our legislators are of the legal profession, and we have looked to them for the rehabilitation of our judicial system. Our hopes have proven vain. The present indifferent attitude of the American Bar is little less than criminal, a disgrace to their noble profession.

FRANK B. BRYANT.